

The Oldest Bee Journal in the English Language

The American Bee Journal

ESTABLISHED BY SAMUEL WAGNER IN 1861

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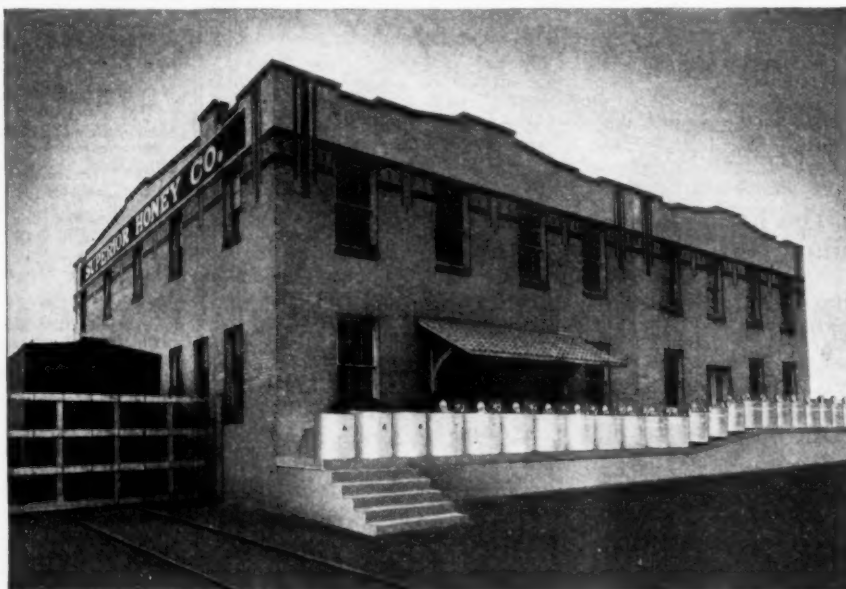
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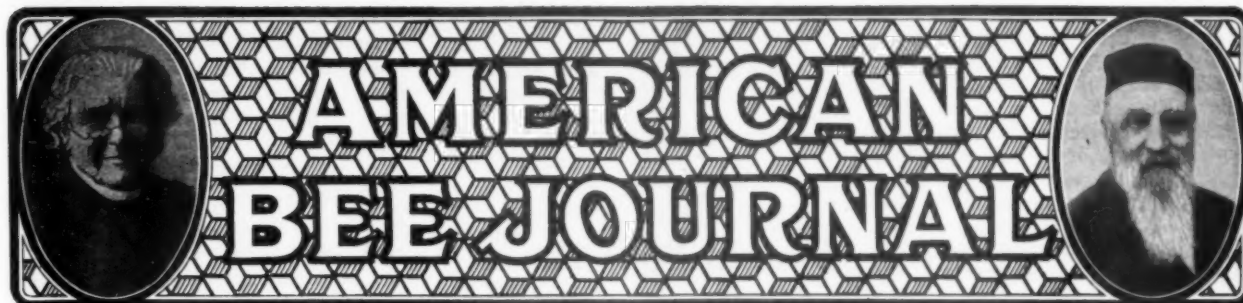
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Vol. LXXVI—No. 7

Hamilton, Illinois, July, 1936

Monthly, \$1.00 a Year

Arsenical Insecticides and Bee Losses

By Erwin C. Alfonsus,
Wisconsin.

THE winter has gone, but not without leaving its marks on the bees. Empty hives with a lifeless population are scattered in the rows of many apiaries, and occasionally a colony is found with just a few handfuls of bees left. The early spring with its feared temperature changes and dwindling is another problem which may lead to further losses. Continuous warm weather finally will bring a multitude of blossoms with plenty of pollen and nectar, extremely welcomed and urgently needed for a speedy recovery and building up. But the beekeeper's sorrows are not yet over. The combatting of pests in orchards and on truck crops, especially with arsenicals, still represents dangers for the developing bee colonies.

Untimely spraying or dusting of such cultures is a universal problem and receives attention by investigators in various countries. Extensive experiments along this line have been carried on in recent years by Dr. Geinitz of the Bee Science Institute, Freiburg i Br. in Germany, and his results and recommendations are presented here in abstract form.

In the years 1931-34 heavy losses of bees and colonies resulted from the use of arsenicals in pest control in orchards, asparagus cultures, and vineyards. The financial loss to south German beekeepers was estimated at \$54,000 (U. S.).

A number of spray trials were performed on fruit trees, rape, and asparagus under tents. When the sprays were applied during the blossom stage, bees died and the loss of the entire colonies resulted. The loss of bees from fruit tree spraying appeared not only during blossom spraying but also after the normal

calyx spray. In order to obtain comparable data, two colonies within the flight range of the sprayed orchard were put on scales and their respective increases or decreases were recorded. Similar records were obtained on two other colonies comparable in size to the previous mentioned colonies, under the similar flow conditions, but in contact with unsprayed fruit trees only. The following table shows the increase in weight:

Time	Spray	Experimental Colonies	Control Colonies
May 2-8		g. 7200	g. 6550
May 9	Blossom spray		
May 9-11		2750	4800
May 12	Calyx spray		
May 12-30		350	4350
Total since first spraying		3100	9150

The calyx spray in this experiment produced more detrimental effects upon the bees than did the abnormal blossom spray. This was due to the fact that May, 1934, was extremely dry and the bees were forced to collect any kind of available moisture, including spray droplets. Therefore it appears necessary to supply a watering place for each apiary in close proximity to the hives and, if possible, the flowing type as described in various textbooks should be provided (1). If the water sources are abundant and the sprays are applied to the fruit trees at the pink blossom stage and the past blossom calyx stage as repeatedly recommended by horticulturists and entomologists, no harm or loss will result.

Occasionally a spray on the opened blossoms resulted in the total loss of

colonies; at other times it was harmless because other sources of pollen and nectar, such as dandelion, diverted the attraction of the foraging bees. The apiculturists are searching for other sources of pollen or nectar to be planted near orchards to provide for new foraging proclivities at the critical time.

Heavy losses of colonies occurred in one case with arsenical spraying and in another case with arsenical dusting of vineyards. In one in-

stance the loss could be traced to the careless disposal of empty arsenic packages in a creek.

The spraying of asparagus beds caused great mortality among bees in 1933, but did not prove harmful in 1934, due to the simultaneous occurring flow from spruce and other sources. The losses resulting from asparagus spraying are due to arsenic carried with pollen. The analysis of asparagus pollen taken from hives showed an arsenic content of 10 mmg. in 1 g. pollen, a sufficient amount to kill twenty bees. In this case the nurse bees were decimated to such an extent that unpoisoned brood died of starvation.

(1) Reviewer's remark: Such a watering place should be constructed in a way which would not allow drowning of bees, to prevent the spread of *Nosema apis*, a sporozoan which in recent time was held responsible for loss of bees in some of the North Central States.

Even sprays applied to fruit trees after the fruit bloom are dangerous to bees if the cover crop between the fruit trees is in bloom and the spray mist settles on them. This offers a new source of poison.

The addition of 2 per cent lime sulfur to the arsenical sprays offers great advantages. **Lime sulfur has a strong repellent action upon bees** which often lasts long enough to allow the spray droplets to dry. Therefore it is highly recommendable to add lime sulfur to all arsenical sprays used in field and orchard, wherever lime sulfur can be safely employed without injury to the crop in question (2). It is, however, not an entirely safe means to prevent loss from spray poisoning, since its repellent action is not a lasting one. Its addition to sprays at least will help to lower the possibilities of spray poisoning.

Frequently a high death rate in colonies as well as the dying of whole colonies was blamed on spray poisoning, but examinations have traced the cause to a heavy infection of Nosema apis.

Close cooperation between the apiarist and the orchardist is of major importance. Most of the fruit growers are well aware of the benefits they receive from the honeybees through pollination, and consider their presence and welfare a necessity. They therefore apply their sprays with precaution. Where this is not the case, the beekeeper should try to educate the fruit grower to timely spraying.

Because of differences in blossoming time of fruit varieties, or adverse weather conditions, a spray occasionally must be applied to full blossoms, but the fruit growers should warn the surrounding apiarists and allow them sufficient time to remove their bees.

At the present time insecticide workers in Germany are engaged along two lines in cooperation with apiculture: 1. Replacement of arsenical sprays with insecticidal materials less toxic to honeybees, such as pyrethrum, etc. 2. Search for a substance to be added to the arsenical sprays which will repel honeybees more readily and for longer periods than does lime sulfur.

(2) Reviewer's remark: The use of lime sulfur is somewhat limited in regard to weather conditions and the type of plant to be sprayed. At any rate, before it is employed a trained entomologist or horticulturist should be consulted.

—ABJ—

Want to Go By Plane to San Antonio?

Do you want to travel by plane to the San Antonio meeting? Fred Muth and Charles Reese, are getting up an aeroplane party for that convention, to leave Cleveland, Columbus, Cincinnati, Louisville and Memphis, on

November 15th or a near convenient date.

Those who anticipate an air trip at reduced rates, write at once to Charles Reese, Columbus, Ohio; or to Fred W. Muth, Cincinnati.

—ABJ—

Glory, Junior, Trees a Big One



Glory, or G. H., is so-called by those at home, just for "nick" (G. H. Cale, Associate Editor of this monthly tirade). Now his son turns to the daughters of light as a proof of inheritance and Glory, Junior, climbs skyward to bring down a grinning armful of truants.

The helpful future promise gives its rainbow sign again. When beekeepers' sons succeed beekeepers' sons, it's a pretty good business after all.

—ABJ—

Nature's Free Package Bees

In the spring of 1935 my father and I built up a small apiary of thirty-five stands with a cost of ninety cents a swarm for the bees. We had fifty boxes in the field by the last of May located in good positions over a route of thirty miles. At the advice of an old beekeeper we placed our boxes in the most solitary trees we could find around places where we knew bees were to be found. Other locations were by water and good honey grounds.

This route was covered once a week, and the bees caught were taken home and transferred into hives. After the boxes were cleaned they were put out again.

The main cost was the queens we bought to improve the strain of the bees. Italian queens were used, and every swarm accepted their new mistress. Three weeks after the introduction all of our swarms were a good Italian strain.

This system was so successful that we will do the same thing this spring on a larger scale.

John C. Failing, Jr.,
Illinois.

—ABJ—

Wax Moth Bulletin

"The Wax Moth and Its Control" is the name of a 14-page bulletin got out by the Bee Culture Laboratory, U. S. Department of Agriculture. The author is Warren Whitcomb in charge of the Southern Field Station at Baton Rouge, Louisiana.

The circular, as its name indicates, is devoted to the wax moth, its description, distribution and methods of control. The bulletin is illustrated by eight halftone pictures.

According to Mr. Whitcomb, the wax moth was apparently spread by man and now exists in practically all temperate climates.

The eggs are laid on the combs and in crevices and any available place. The larvae on hatching are very active and appear like lice. Such larvae are able to crawl through cracks in the hive even though the eggs have been laid outside the hive proper. They make for the unprotected combs and burrow into the comb, promptly forming a wax worm which is the shape in which we usually think of the damaging insect.

The nourishment probably consists of beeswax and the impurities in beeswax. Little loss is caused to rendered beeswax or to bee comb foundation.

All the moth observed by Mr. Whitcomb were the greater wax moth (*Galleria mellonella*). None of the lesser wax moth were seen. Apparently reports of the lesser wax moth are due to small size individuals of the *Galleria mellonella* which have been improperly fed.

Recommendations are to keep colonies strong and to protect unoccupied equipment by using paradichlorobenzene, or carbon disulphide. The use of calcium cyanide is also given although with the precautions that this is a deadly gas which could not only kill the moths but the bees and the beekeeper as well if not properly handled.

Anyone interested in the bulletin should write to the Department of Agriculture at Washington, D.C., and ask for Circular No. 386 entitled as above.

Mother Eustacia

Mother Eustacia, O.S.B., of the Catholic Orphan Asylum at Crookston, Minnesota, died May 29. She was well known among beekeepers of the state and the country for her work in popularizing honey, for candle making and honey baking. She was in charge of 200 orphans and sisters. Her honey products won prizes throughout the United States. Many beekeepers will remember her from conventions she attended.

Francis Jager,
Minneosta.

—ABJ—

Uses of Creamy Honey Topping

CREAMY HONEY TOPPING

One-third cup honey, 1 egg white.

Have egg white and honey very cold. Use double rotary hand beater or electric beater. Delicious cream for cake, jello, puddings, baked apples, or as meringue for pies.

Creamy Honey Topping may be used in the many ways whipping cream is used in cakes, on berries, jello, puddings, fruit, and pies, and is not as expensive nor as fattening as some desserts.

As a dressing for fruit salad. Add 1 teaspoon prepared mustard and 1 tablespoon lemon juice to 1 cup Creamy Honey Topping.

Mix with Rice Krispies and use as a paste to spread on butter wafers for tea. Chopped cherries may be added to this mixture.

Blend with mayonnaise. Add $\frac{1}{4}$ cup Creamy Honey Topping to 1 cup mayonnaise.

For Waldorf salad. Add $\frac{1}{2}$ cup Honey Topping to $\frac{1}{2}$ cup mayonnaise.

For horse-radish sauce for tongue or baked ham. To 1 cup Creamy Honey Topping add $\frac{1}{4}$ cup horse-radish and $\frac{1}{2}$ teaspoon prepared mustard.

For sauce for puddings, fruit cakes. To $\frac{1}{2}$ cup Creamy Honey Topping add 1 tablespoon melted butter.

As an ordinary meringue for pie, baked Alaska and sweet potatoes en casserole. Brown the meringue in the oven.

Creamy Honey Topping improves the texture of frozen fruits and desserts made in automatic refrigerators.

— Recommended by the Illinois Honey Foundation.

Optimism in the Lone Star State

Not since Texas has been under the jurisdiction of this flag has there been such optimism as at present. The state has recently experienced a long

drought but last week's copious showers came and it looks now like a new deal to every citizen.

Recently the citizens of Uvalde, Texas, celebrated the Texas centennial year program with a two-day jubilee. There was a honey display, honey products by the business houses. The annual production in Uvalde is probably about 2,000,000 pounds per year. The two day celebration was participated in by over 500 school children and leading citizens of this great honey production city and county. Miss Wilma Russel,

home town girl, was crowned queen bee.

Much interest is also being displayed in Dallas because of the \$25,000,000 Texas centennial which is being held this summer. Great preparations are being made to entertain the visitors that will come during the hundredth year celebration of the state. A twelve foot glass tube will be installed at the bee exhibit showing an unusual display, in the interest of beekeeping.

John R. Hancock,
Texas.

—ABJ—

Stepping Up High



George Jacobson, of Wisconsin, sent us these pictures showing his bee yard in the season of 1934. He says, "About fifty supers had been taken off in the view of the apiary. I had several hives like the one showing me taking off supers and three like the one beside which I am standing. I took over 300 pounds of honey off that one hive and divided the colo-



ny and each division had a full super of honey for winter."

The three-step ladder Mr. Jacobson uses is interesting. This is pretty hard work. Funny, though, a beekeeper is willing to work hard when the supers are full or being filled with honey.



GUEST EDITORIAL

*In the Interest of . . .
American Honey Institute*



The Groundwork Is Sound

By James I. Hambleton,
Senior Apiculturist,
United States Department of Agriculture.

The Secretary of the American Honey Institute has asked me to help inaugurate an innovation that the Institute is sponsoring, namely, to have a different person write the news notes each month. The experiment, for it surely will be such, is to continue one year, thus involving twelve persons.

In accepting, I find myself at a disadvantage in that there is no guiding precedent. Not all persons are gifted with the ability to write interestingly about the work of the Institute, and it is doubtful whether any one on the outside can do this as well as the members of the Institute staff. This experiment, however, may bring to light new talent, which can later be placed in regular harness in Institute work.

The twelve persons who prepare these pages will unquestionably find the task difficult, but at least they will have a better appreciation of the work performed by the directors and staff of the Institute than they had before. Many of us will have a natural desire to give advice, most of which may be good but little of which, perhaps, can be carried into practice. Our viewpoint will be that of an outsider; and while it is well for the Institute always to keep an ear to the ground with respect to how the industry reacts to its activities, in the end the Institute must make its own decisions.

In the May issues of the bee journals the hard-working secretary of the Institute gives voice to her disappointment that only two persons responded to a request for suggestions as to changing the date of National Honey Week from the fall to the spring. Off hand, this poor response would appear to be due to indifference on the part of those whom the Institute is striving to serve.

I am certain, however, that this is not the case. In fact, no one knows positively which of the two seasons would be better for holding National Honey Week. Another explanation for the few responses is that the beekeepers have confidence in the directors and officers of the Institute and thus are willing for them to make the decisions and plans in conducting the Institute as their judgment dictates. **If the industry were canvassed on many points and the Institute had to depend upon the returns, progress would be exceedingly slow. Much of the so-called apathy is really silent approval.**

This all points to a fact not generally appreciated,

namely, that any one who accepts the responsibility of becoming a director or officer of the Institute has to be satisfied with the knowledge that his efforts are bearing useful fruit. He cannot expect much in the way of popular acclaim or honor. As a group, beekeepers are not given to public laudation, and perhaps this is just as well. There is no brass band to lead the procession, but this can hardly be expected from those who are not innate hero worshipers. Progress is being made, nevertheless, in a quiet, perhaps, but dignified manner, and **the groundwork that the Institute is laying is perfectly sound.**

All beekeepers are engaged, either directly or indirectly, in producing a natural food, and who can point to a natural food that has been replaced by an artificial or manufactured one. Artificial foods come and go, but we shall always have honey. I have never worried unduly about honey substitutes and do not consider sugar a real competitor of honey.

The public, moreover, is beginning to realize the great value of the beekeeping industry. As time goes on many agricultural pursuits are becoming more and more dependent upon those who keep bees. This is quite obvious when one realizes that neither State Experiment Stations nor the Federal Government is carrying on any active work toward the propagation or the conservation of pollinating insects other than the honeybee. Pollinating insects are the innocent victims in the battle to control obnoxious pests.

A great field lies ahead of us. Let us keep our feet on the ground and advertise honey for what it is, not make of it something that it is not. Also let us not be led astray and imitate the methods used by purveyors of artificial foods, which require all kinds of artifices for their sale, the profits from which certainly do not go to the producer. It is not necessary to dissipate the profits of beekeepers through too many hands. Most of the profits can and should go to the producer and a just share to the legitimate and sincere distributor.

In conclusion, I should like to make a plea that the editor grant Mrs. Jensen and her helpers enough space in the Journal to permit the inclusion of some of the regular Institute notes and thus preserve the continuity and character that we have been accustomed to expect on turning to the Institute page.

[Please turn to page 360.—Ed.]



FRED LEININGER

Loss of Fred Leininger

FRED LEININGER, of Delphos, Ohio, has gone, we read in *Gleanings*. We have no details. Beekeeping loses one of its prime leaders.

For many years Fred was the moving spirit in the development of the great beekeeping center at Delphos. We visited him years ago and found that his leadership was the outstanding mark of beekeeping success in the vicinity of Delphos. He leaves a son, Walter, also interested in the bees who will probably carry on in his place.

Fred leaves behind him many good beekeepers who took their first lessons under his leadership years ago. He was one of those men who believed his own success to be a privilege and that it was his duty to pass on to others whatever he had accumulated in wisdom. The result was the making of many fine beekeepers who regard him as their leader. Our sympathy is extended to his family.

—ABJ—

Death of John M. Bixler

John M. Bixler, prominent Iowa farmer and beekeeper died at his farm home near Corning on May 26. He was 68 years of age and a life-long resident of Adams County.

In his earlier years Bixler served three terms as County Superintendent of Schools and later became clerk of the House of Representatives. He also served three terms as Representative from Adams County in the Iowa legislature.

Mr. Bixler was one of the first to attempt to overcome disease in the apiary through the selection of resistant bees and his paper on that subject was presented to the Iowa Beekeepers' Association about ten years before there was any general support of the project.

—ABJ—

Manitoba Inspection

Cost of the inspection is financed by a registration of five cents per colony. Last year between \$4,000 and \$5,000 was collected. According to L. T. Floyd, Manitoba apiarist, the amount of disease in the province is very small. Inspection is by quarantine.

F. H. Fullerton,
British Columbia.

Death of G. L. Sauer

WE regret to advise our northern Illinois readers of the sudden death of Mr. G. L. Sauer of Polo, Illinois, at the age of seventy-two years.

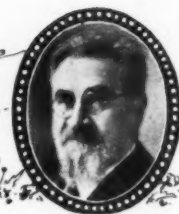
Mr. Sauer was busy at his bees when his death occurred. He has been

a very active beekeeper for many years and one of the finest men in northern Illinois. A thorough believer in beekeeping organizations and association progress, he lent an aid to every worthy cause that came along.



Picture taken in Sauer apiary. G. L. Sauer at left.

EDITORIAL



Guest Editorials

Starting with this issue, the activity reports of American Honey Institute will be prepared by guest editors. James I. Hambleton in charge of bee culture investigations for the United States Department of Agriculture will introduce the plan and his editorial will be found on page 334 of this issue.

Hambleton is well known to our readers and, because he has a chance to talk and write to beekeepers in different parts of the country, his presentation of the development of the Institute should appeal to all of us.

—ABJ—

Disease Resistance

The question of disease resistance in honeybees is at a very uncertain stage, perhaps one should say at a dangerous stage just now. Enough has been done to prove definitely that an occasional colony is resistant and is able to continue its prosperity in the presence of disease. Rather we should say is able to remove the diseased material and remain clean for an indefinite period.

However, judging from what has been done at the cooperative experimental apiaries there is little stability in this tendency. If there is any stock which can be depended upon to overcome disease consistently it is not yet generally known.

A few who have found some evidence of resistance in their apiaries propose to advertise resistant stock. We feel that it would be a mistake to permit such advertising until breeding has advanced to a point where more dependence can be placed on the character.

Many of our readers will remember the experience of Tyler at the Missouri University. Tyler evidently found stock with a measure of resistance and misinterpreted his observation. He assumed that because the bees in his care were able to make progress in cleaning up disease that all would do so. As a result he found himself in an embarrassing position. Had he realized with what he was dealing and started a careful investigation of the possible inheritance of this trait it is quite possible that several years might have been saved in the solution of the disease problem.

While it is important that careful attention be given to the effort to find resistant stock which can be depended upon to breed true, it is dangerous to risk premature claims for such bees. It now seems probable that the matter will be systematically studied in several states in cooperation with the United States Department of Agriculture. We may confidently look forward to substantial progress in due time. In the meantime we urge our readers to be careful.

—ABJ—

The Search for Something New

Probably at no time in the world's history has mankind been so keenly alert to find things which were new. Perhaps this demand has been carried to an extreme but we seem no longer satisfied with things which are familiar. We want new designs in automobiles, in furniture and homes. No woman would be satisfied with a gown or a hat of last year's model. Florists are striving frantically to produce new flowers and every year brings new varieties of rose, peony, iris, gladiolus and a hundred others.

Only the poor beekeeper must go on producing the same kind of honey year after year. It may reach his customer in a different kind of package with a more attractive label but the bees reached perfection in their product centuries ago and have been able to make no further improvement.

Combating Pests

It appears that all the field of agriculture is tormented with plagues of diseases and pests. Of late the trade papers relating to various specialties are filled with discussions of control measures. The daffodil growers have been subject to a strict inspection and control in an effort to eradicate the ellworm with some degree of apparent success. A study of the pest reveals, however, that it has at least 128 host plants including such common weeds as dandelions. Such a condition indicates the impossibility of complete eradication. This is only one example of a hundred which might be mentioned of the difficulties to be met in the production of grains, fruits, flowers, vegetables or animals.

More and more attention is given to scientific study of the life history of a pest in an effort to find some new and more effective means of control. Some plant diseases are found to occur on so many different kinds of plants as to offer serious difficulties to the grower.

Much remains to be learned as to the source of disease in animals. While it is well known that serious epidemics suddenly appear after long periods of freedom, there is little knowledge as to whence and why.

It seems very probable that disease and pests can be conquered with sufficient knowledge and that mankind need not continue to suffer in the future as he has in the past. Until very recently nothing was known of the organisms causing bee diseases and even yet we do not know whether they are confined entirely to the honeybee or may effect other insects as well.

It is a healthy sign that serious attention is being given to these problems and that beekeepers are seeking some more satisfactory and less expensive control than the destruction of their property. Once a thing be sought diligently enough, it is likely to be found.

—ABJ—

Recent Progress

It is only when we compare present crops with those of the ancients that we realize the great progress which beekeeping has made in recent years. It is recorded that in the time of Aristotle ordinary hives yielded nine to thirteen pounds of honey, good ones eighteen to twenty-two pounds and exceptional colonies as high as twenty-seven pounds.

Although honey and wax were then commercial products of first importance for which no substitutes were known, but little change in methods of production took place in many hundreds of years. It was not until the invention of movable combs by Langstroth that men learned how to build up big colonies and to conserve their energies for the production of large crops of honey.

With the improved equipment which made possible larger returns came also substitutes which supplied a very large portion of the demand for both honey and wax. Sugar which could be produced in unlimited quantity served the public for a sweet, while the waxes which were secured as by-products of petroleum, largely met the needs of industry. Had these substitutes not been found modern life would be very different since it would hardly seem possible to produce enough honey and wax to meet the enormous demand which has developed.

Although returns from individual colonies of bees were small it appears that beekeeping was no mean occupation in ancient times. It is recorded that the ancient Seius leased his bees for 5,000 pounds of honey per annum. One cannot but wonder how many bees he had when he could secure so large a crop as rental. If the average return from a hive was only ten or twelve pounds as the old writers state, Seius must have owned extensive apiaries.

Permanent Bee Pasture

Letters coming to this office indicate a continued interest in the matter of planting waste land to crops which will provide pasture for the bees. Frequently we are asked where suitable seed or plants can be obtained.

Thousands of black locust trees have been planted in the Middle West by the CCC boys in an effort to stop soil erosion. The black locust is the source of excellent honey although the flow is usually very short and the yield accordingly light. Basswood is worthy of more general planting since it makes a very attractive shade or woodland tree.

Several have asked where they can secure seeds of the buttonbush or button willow for planting in swamps. Some nurserymen offer the plants as there is some demand for it for ornamental use. It makes a very useful and attractive shrub and is adapted to a wide area. In the wild state it is usually found in swamps or river bottoms but it will do well in rather dry situations on rich soil. The blooming season is in midsummer when many localities find a scarcity of honey sources. Those who are situated where seed can be gathered may find a market through advertising in these pages.

The willows are among the most adaptable of native trees. There is some variety suited to every part of the United States except the desert and even there they will grow along the water courses. In the North the willows bloom very early in spring and supply an abundance of both nectar and pollen when it is badly needed. Maples are likewise useful and suited to an area of similar extent.

Sweet clover was widely scattered by beekeepers seeking more pasture long before it was appreciated as a farm crop. Where this plant succeeds the beekeeper may profit from scattering seed along the railways and highways and other available places.

This is a subject well worth attention of the beekeeper who is located where waste land is available.

—ABJ—

Summer Meetings

There are indications that the beekeepers are taking more interest in summer meetings than for several years. During the depth of the depression there was a tendency to abandon every activity which was not essential to the primary purpose of meeting one's bills. Now that conditions have somewhat improved some of the old time enthusiasm for conventions has returned.

After all it is a poor meeting which does not offer something worth while for the wide awake man. When a group of beemen get together some new idea which is useful in one's work is sure to be offered. With the stimulation which comes from contact with one's fellows comes better work and renewed enthusiasm.

It is not the fellow who sticks closest to the grind of his every day work who makes the biggest success, but the one who is alert to take advantage of every new suggestion which comes to his attention. The summer meeting provides opportunity for both recreation and serious consideration of the problems of our business. We can hardly afford to neglect such a privilege.

—ABJ—

Rainfall and the Honeyflow

The May number of Bees and Honey has a most interesting article by A. K. Whidden in which there is shown the relation of the rainfall and the honey crop for a period of twenty-five years.

The beekeeper has long recognized the fact that his crops were better in years of good rainfall but perhaps has not realized how closely the size of the crop follows the amount of rain. With the article mentioned appears a graph showing the amount of precipitation and the size of the crop. The two go along together to a surprising extent. With little rain it is not surprising that there should be a dearth of honey but one is hardly prepared to find the increase of the yield in such close association with the increase in precipitation.

In only two years did a heavy rainfall fail to bring a corresponding honey crop and those were years of flood.

There is a scarcity of records which will enable the beekeeper to measure the influence of the weather upon

the crop in his own locality. Some years ago a bulletin was published by Iowa State College of Agriculture, entitled "Weather and Honey Production." It was based upon the records of the late J. L. Strong of Clarinda who recorded the gain or loss of a colony on scales together with the weather conditions over a period of about forty years. While the amount of precipitation was indicated to be the most important factor in the honeyflow other things were shown to enter in, such as the direction and velocity of the wind, humidity, amount of sunshine, etc.

One wonders whether it might not be practical to have volunteer observers among the beekeepers who would keep records in the same way that weather records are kept over a long period of time. If uniform recordings were made in all parts of the country to be sent to the Bee Culture Office the results might be very valuable to the industry and yet cost but little.

—ABJ—

King Tut's Honey

Just how the story started that a jar of honey was found in King Tut's tomb nobody seems to know. At any event the story has been circulated far and wide and has appeared in many publications of large circulation. Always it is said that after all the long centuries the honey was still liquid and ready for use.

Probably there is no harm in such a story but who would care to eat honey that has stood for even fifty years to say nothing of several thousand? The fact is that honey does deteriorate after a few years until it is no longer fit for use. Even when kept in a tightly closed container it gradually changes in color and texture. The changes are slow and the quality is not greatly damaged for a considerable period. There is a limit beyond which it is no longer of use and that limit is very far short of the time which has passed since the sealing of King Tut's tomb.

A series of samples kept in the office of the American Bee Journal in glass jars had so changed after a five-year period that none of them would any longer be classed as first quality honey. A sample of white clover honey after being kept for about ten years was quite dark in color and decidedly changed in texture. After eighteen years had passed this sample had so far deteriorated that one would scarcely wish to use it as an item of food.

If a jar of honey was found in the tomb, which seems very doubtful, it was probably so changed that it would be difficult to recognize it. Certainly it was not the fresh and attractive product which the newspaper stories have pictured.

—ABJ—

Advertise

A good example of the value of advertising can be seen in the relative interest in the two expositions held this summer. The one at Dallas has been widely publicized and everybody knows about it. The one at Cleveland has received relatively small attention by the press and few people are interested.

If only honey was advertised as it deserves to be and its merits were told to the public as the merits of oranges have been, the present supply would fill but a meagre portion of the demand. The work of the Institute is making a good start but its staff should be enlarged and its contacts greatly extended, as they will be when beekeepers fully realize the value of the effort.

—ABJ—

Bees and the Public

Great care should be used in placing an apiary to choose a site where the public will not be annoyed. Most people are very much afraid of bees and become nervous at the mere sight of a flying insect.

Numerous serious difficulties are reported to us which might have been avoided by a little thought on the part of the beekeeper. The beekeeper regards a sting as a trifle hardly worthy of notice but to the average person it is serious and is likely to be discussed much in the light of a surgical operation in importance. Be sure that the bees are located where passers by do not get in the line of flight, and try to see that there is a water supply away from the neighbor's water trough or cistern pump. It is much easier to avoid trouble than to cure it.

Have You Faith in American Honey Institute?

By H. F. Wilson,
Finance Committee,
Wisconsin.

FOR over a year it has been possible to carry on the work of American Honey Institute without making a special plea for money. Through the faith developed by its contributing members and conservative use of funds, the Institute was able to fulfill its promise of last June that no emergency call would be made for financial support.

The Institute is now in its ninth year, and has rendered a service to the beekeeping industry that cannot be calculated. The great difficulty is that the Institute is a public institution dependent entirely upon contributions from individual members and business groups engaged in one or more phases of beekeeping. It is unfortunate that an organization of this kind has nothing concrete to sell. It has no way of developing an income on the basis of concrete goods delivered or services rendered.

As far as anyone can tell at present, its future depends upon the willingness of a more or less unorganized group of individuals to maintain the Institute by voluntary memberships. These people have seen a national response to the Institute publicity campaign through an increased use of honey; thus they have faith in this type of plan for national advertising. The continuation of this faith in a definite number of individuals is absolutely necessary for the life of the Institute.

On June 1, 1936, the treasury did not contain even sufficient funds to carry the Institute two weeks, and had it not been for a reserve fund developed last year by the supporting members, it is doubtful if anyone would have been willing to accept the responsibility for maintaining the Institute until July first.

It is impossible to tell how many of our beekeepers believe in the Institute program. There must be many who are not members, but who have seen some evidence of the great publicity campaign that the Institute has provided from coast to coast, and from the Gulf of Mexico beyond the Canadian border. The work is known in every honey producing country of the world, and considerable praise has been received from lands as far away as New Zealand. The work of

the Institute must go on. State leaders must continue their individual efforts to keep the Institute before the beekeepers and present its cause at every opportunity, for the Institute is individually and collectively the most important national advertising agency that could be developed for honey advertising.

No emergency request is being made to beekeepers at this time for funds since we count the time from July first to December 31st of each year as the proper period for a nation-wide solicitation of memberships. **NOW** is the time for every member to renew his affiliation for 1936.

Conclusive evidence can be provided to show that the consumption of honey in 1929 was less than one pound per person, and that an increase of a half pound or more per person has been developed through a period during which the consumption of honey undoubtedly would have fallen to a half pound per person, or less, if it had not been for this national advertising campaign. The publicity brought about the use of millions of pounds of honey which otherwise would have been left in the hands of beekeepers. Even low prices would not have moved more than a small portion of the crop. Upon the faith of its present members depends the future of American Honey Institute. And to a large extent, the future prosperity of the honey industry depends on the faith of added members.

The memberships of the queen breeders, normally paid during June, plus a reserve fund, will make it possible for the Institute to continue to July first. The memberships of the supporting members due July first with the remainder of the reserve, will make continuance possible until August first. But from that time on, only the immediate payment of a sufficient number of memberships to continue operation will prevent closing of the office and the passing of the Institute.

The major portion of the Institute's income is paid during the fall months, and the Board of Directors hopes that this income may be increased to the point during 1936

where an additional reserve can be laid aside for operation in 1937 so that no emergency calls will have to be made.

This is not an emergency call, but it is a request that those of you who have faith in the work of the Institute and its future value as a national advertising medium, will pay a portion of your 1936 membership. You should also enter into an active campaign in your state to fulfill your state quota, based on the honey crop.

Because of pressure of other duties, the writer finds it necessary at this time to take a less active part in assisting with the Institute financial program, and arrangements have been made for a student in the university to undertake the development of this part of the Institute's program. Starting in June, Miss Willah Goodman, a native of Iowa, will act as financial agent for the Institute. I hope you will give her your support, and make it possible through individual cooperation for her to bring to the Institute that support which is absolutely essential for the full development of a national publicity campaign that will result in greater revenues for those engaged in the bee industry.

At the present time there is no problem among our beekeepers because apparently the honey crop has passed entirely out of the hands of the beekeepers—but what would you do in years of abundant honey crops if an active publicity campaign were not maintained?

—ABJ—

Bees for Defense

Besides the ordinary uses for bees, such as production of honey and benefitting gardens and orchards, the ancients often used them for defense. There is a story of how the army of Lucullus was undermining the walls of a city when the people discovered his purpose and planned a very practical joke. They made an opening and threw hives full of bees into the tunnel where the enemy forces were at work—"to their great trouble and vexation," says the historian.

W. H. Hull, Virginia.

Making Profitable Use of Wax Cappings

By Alfred H. Pering,
Florida.

BACK in the old Hoosier state several years ago, was where I first learned the profitable use of the wax cappings that accumulate when uncapping honey for extracting. I had removed a frame of brood from near the center of a moderately strong colony and inadvertently left the space empty over night. When I returned to refill the space I found to my surprise that the bees had, during the interim, just about rebuilt a comb where the frame ought to have been.

Examining this comb, it was found to be anything but a new-appearing nice white comb, as newly built combs usually appear to be. This comb had all the appearance of having been built of "second hand" wax. It was dark in color throughout; some of its makeup showed varying degrees of blackness. I decided at once that it had been constructed of wax gathered up here and there from burr-combs. Examination of the inner edges of the top bars indicated that was where the wax largely came from in the building of this comb. It seemed to have some new wax in it too, but the whole thing bore every evidence of having been constructed of wax already secreted and not from new fresh flakes.

From that time on, I have from time to time, made use of the wax from cappings by placing it where the bees could easily get at it when needed. I have had frames of honey sealed with these cappings as evidenced by the irregular and stained appearance of the combs. The color on the surface of the combs would vary with the color of the "second hand" wax used.

I was puzzled somewhat just how to prepare these cappings and to "feed it up to the bees." After some experimenting, I found that if I just "dished it up" to them as the cappings came from the knife, they could not so easily use it as when given in small pieces. They would construct mounds of it and carry some to where wanted, and when given freely they "manufactured" burr-combs a plenty.

A few experiments showed the best method to be to press the cappings through a coarse sieve. Galvanized wire-cloth of about four meshes to the inch is about right. This renders the pieces small enough so they can handle them or chew them into smaller bits if wanted smaller.

I now make good use of these cap-

pings by giving them to bees that are building comb, especially where I want extracting combs and am using light thin foundation sheets. If a very thin syrup is fed to the comb-builders at the same time these wax-capping-flakes are put up to the bees, they will construct combs of it very rapidly. I have resorted to the use of inch starters even, but in that case there was too much drone comb constructed, and I do not want that even above a queen-excluder. Bees, of course, will fill drone-comb in the supers with honey after all the other worker-cells are filled and they have no other comb to deposit the honey in, but they will leave the drone combs for some time, it seems, in hopes that the queen will gain access to the drone comb and lay therein. I do not want this waiting and delay and irregular filling of the super-combs. I want it filled all over alike and sealed evenly; so I much prefer the full sheet of foundation even if the sheet is the thin super foundation. These thin sheets afford profitable use of these wax cappings. Then again when you are uncapping thick combs, one need not be so careful in just getting the knife barely under the cappings in order to save the thickness of the comb; if the cappings are fed back again, the bees will soon restore the thickness of the combs as before uncapping them, thus making good use of the wax in the cappings and saving the consumption of honey from which to secrete more wax scales.

I find these cappings splendid to get full drawn combs in the brood chamber when swarms are hived. Supply the cappings during the first twenty days after hiving a swarm and you will find that you have a full brood chamber of practically all worker cells, even in the extreme corners of the frames and more of the combs will be built clear down and attached to the bottom bars of the brood frames. The outside frames will be free of drone comb if your supply of capping scraps do not give out before the first cycle of brood rearing ends.

One drawback, which is not so bad, is, that if the bees cannot make useful use of these cappings they will construct burr-combs of them a plenty. If you are careful and give just about enough of the cappings they can use properly, you will not be troubled very much with burrs,

not more than you will be under ordinary circumstances.

One of the most useful uses made of these cappings when furnished to the bees, is in queen rearing. When this wax is furnished to cell builders, the bees will build many more cells and larger ones than when they have to secrete the wax as needed or scrape it, perhaps, from burrs. There is a very pronounced difference in the number of cells and the size, particularly in the length of the queen-cells when the wax is so furnished. This feature in the reuse of the wax cappings is the most important use or result of anything in connection with giving the cappings back to the bees of anything that I have yet found. I consider this an important find.

—ABJ—

A Plan of Cooperation That Will Work

By Wilbert Harnack,
Iowa.

Here is our plan which we have in our county to promote honey consumption. At the present we are working on projects one and two as given below. The Clayton County Farm Bureau has become interested in our program and is showing splendid cooperation. We have ordered a hundred copies of "100 Honey Helpings" which the Farm Bureau is distributing to members of the women's home project work and to 4-H Club girls. Up-to-date we have distributed 200 copies. We expect to put on honey demonstrations through the cooperation of the Farm Bureau also, to include the use of honey in various foods in cooking and in baking.

Project number three, which we have not yet worked on, is for the dairymen, whom we hope to get interested and help in our work. Four, to get the doctors to recommend honey whenever it fits their case. Five, to get the county nurse to recommend honey for children and give information about honey in her talks to schools and to the parents of children. Six, show at community meetings, Rotary clubs, etc., pictures about bees and how they make honey and bring out the point that it is an easily digestible sweet, that it is healthful and why it is healthful. Seven, the writing of articles for newspapers giving information about bees, honey and beekeeping.

Winter Loss

By George Harrison, Jr.,
Virginia.

THE U. S. Government Market Report has just come to hand. I have tried to make an analysis of the winter losses of bees in an effort to determine what relation to the loss the different methods of wintering bear. So far as I am able to determine there seems to be no consistency in the reports except that in the far North, where cellar winter-

heavy as a year ago." This report, evidently, must have originated in southern Virginia, where many colonies starved during April in 1935, due to neglect and bad weather. My own loss during the winter of 1934 and '35 was negligible, but this past winter—but that is another story.

What deduction can we make from the above government report? The

only one I can make is that cellar wintering, at least in the far North, is the only safe method in such a winter as the last, and, so far as I am concerned, that is out of the question even though it proved just as satisfactory here. Serious losses are too infrequent in northern Virginia to warrant any radical change in the methods of wintering. In my more than twenty years of beekeeping I have never lost more than ten per cent during any winter till now. Had my bees been in packing cases this past winter I am not sure that my loss might not have been even worse than it was, as heavy packing may have prevented the partial flight which occurred during the middle of February and again a little later. On the other hand, heavy packing may have prevented starvation by allowing the bees more freedom of movement within the hive during the cold weather, but I am not at all convinced that any of the colonies died of starvation.

Now to get to the story to which I hinted above. I have had a disastrous winter. I have removed the hives in which colonies died last winter and united weak colonies until there is left only about 50% of the



Fig. 1. Dead colony. Note dark area on top of frames caused by discharges from the bees.

ing is practiced, wintering in that manner seems to be satisfactory and that the losses, as a whole, have been heavy.

Admittedly the report is far from complete. Colorado, for instance, simply reports 10% to 30% loss, with no qualification as to how the dead colonies were cared for last fall. Nebraska, however, gives a more complete report, showing that of the 10% to 75% loss most of the loss occurred in the packed and unpacked colonies on the summer stands, while those placed in cellars wintered well. Unfortunately there is no comparison of the losses sustained in the packed and unpacked colonies.

Michigan, with its nothing to 75% loss, compares its unpacked and cellar wintered colonies very well, reporting heavy losses in the unpacked colonies as against normal wintering in the cellars. New York reports its heaviest losses in packed colonies, while Pennsylvania reports the loss in packed colonies as "not serious."

Virginia reports "losses not so

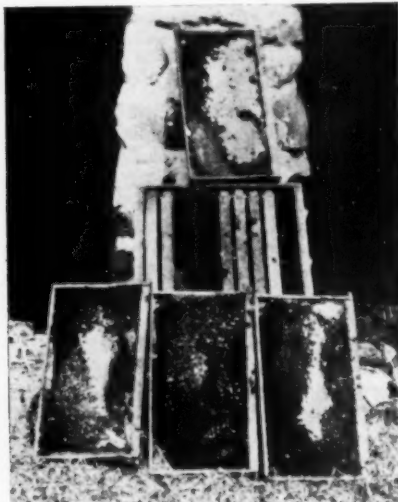


Fig. 2. Same hive with four combs removed. Frame on ground from center of cluster, empty of honey.



Fig. 3. Another colony with similar dark area, a sticky mess of bee discharge.

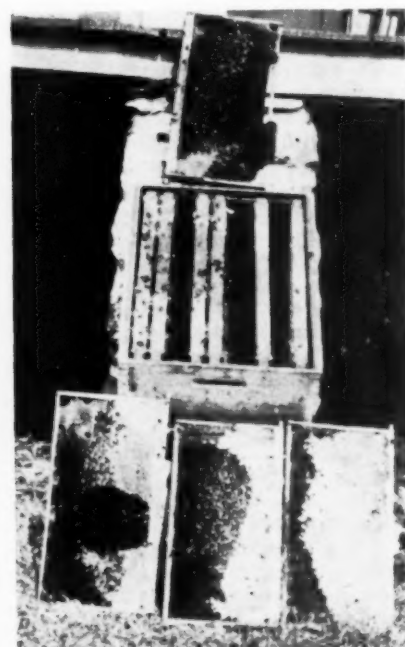


Fig. 4. Top comb from center of dark area, with some honey still in lower left corner. Other combs with considerable honey. Could this colony have died of starvation?



Fig. 5. Shallow food chamber from dead colony, also with characteristic dark area.

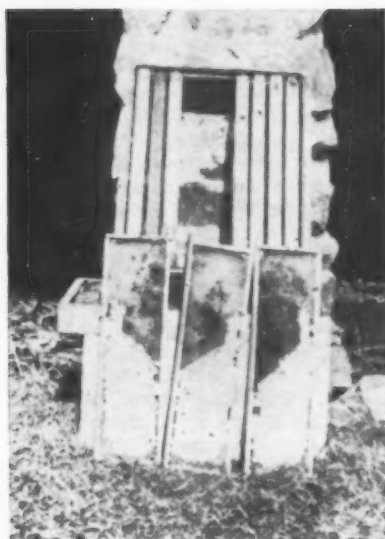


Fig. 6. Same super as in Fig. 5, with combs removed.



Fig. 7. Comb from brood chamber of hive from which shallow super in Fig. 5 and 6 was removed.

number I went into winter with. Of the remaining 50% only a very few can be called good colonies. Some may have to be united again to permit their building up to honey gathering strength in time for the flow.

Last spring, on March 25, I had many colonies with brood in five to seven frames. On March 25 this year I doubt if I had a single colony with brood in as much as four frames; many of those still living on that date had brood in only one. Such colonies have been united to others and counted as loss.

In uniting these very weak colonies I remove the combs from one until the brood is reached. A newspaper is then placed in the vacant space left by the removal of the combs in such a manner that it lies along the bottom of the hive and up the front until it closes the entrance to the vacant space. From the bottom it then goes up the side of the frame containing the brood and over the remaining combs. This completely shuts off the vacant space from the rest of the hive containing the colony and also closes the vacant space from the entrance. Into this vacant space is placed the colony which is to be united to the prepared one. The brood of the colony being united is placed next to the paper, which also places it next to the brood of the first colony. If brood is in more than one frame, the frame containing the greater amount is placed next to the paper so that the brood-nest will assume greater symmetry. In a short while the paper will be chewed away, leaving the colony united and the brood in a compact mass. If weak colonies are newspapered one above the other it often results in the bees abandoning the brood in the upper hive, leaving it to perish; and the saving of the brood is of more importance than

saving the bees. In uniting I prefer to place a very weak colony with one in better condition rather than placing two very weak ones together. This tends to produce a more uniform colony condition.

I also found some colonies established entirely in the shallow food chamber. Such colonies are united over others with newspaper between them—when possible to a colony without a food chamber. If the brood cluster in the hive which is to receive the food chamber colony is to one side or the other, while the one in the food chamber is in the middle of the hive, frames are switched in one colony or the other so that the brood in one will come directly over the brood in the other. As before, the object is to keep the brood together as much as possible.

My loss is being recuperated by purchase of colonies in the neighborhood and package bees. I hived twenty-five three-pound packages on Saturday, April 4. More will be purchased soon. I am anxious to see how these packages build up for the flow. I am told that it is necessary to add two combs of emerging brood and bees to them at two-week intervals for them to do so. I am afraid I won't have the brood and bees to spare for them.

Figure 1 shows a hive from which a dead colony has been brushed. Note the dark area on top of the frames. This discoloration is discharged from the bees and was a sticky mess at the time the hive was removed from the stand. Figure 2 shows the same hive with four of the frames removed. Their position in the hive can be judged from the vacant places from which they were removed. The center frame resting on the ground came from the center of the cluster. This comb is empty

of honey, but the one to the right of it and the one to the left still contain some honey. (These two combs lay to the left of the empty comb as they were in the hive.) The comb to the right of the large open space in the hive where the three combs were removed is probably also empty of honey (the empty one shown on the ground lay next to it), but the rest contain honey in varying quantities. The comb on top of the hive is the right outside comb and is well filled with honey.

Now what killed this colony? Did it die of starvation or diarrhea, or both? In my opinion it died of diarrhea, but it is possible it may have died later on of starvation had it not died from other causes when it did. However, if the colony did reach the point where it suffered for lack of food, a slight let-up in the intense cold may have permitted the bees to move over to more honey.

Fig. 3 shows a hive in which another colony died. A similar dark area is shown on the tops of these frames, to the left of the hive this time and slightly above center. This dark area again consisted of a sticky mess of bee discharge. In this case the bees had not entirely consumed the honey in the combs in the center of the cluster. In Fig. 4 the comb on top of the hive came from the space in the center of the dark area of this hive, the space where the cluster was. Some honey can still be seen in the lower left hand corner of the comb. The comb on the ground to the left came from the left of the wide space in the hive, and next to the cluster, the one in the center on the ground next to it and the one on the right second from the right of the hive. Could this colony have died of starvation?

Fig. 5 shows a 5% food chamber

removed from a colony that died. This again shows the characteristic dark area, though not so large as the others because most of the mess was between it and the brood frames below. Fig. 6—This is the super shown in Fig. 5 with the combs on which the cluster died removed. Fig. 7 shows a comb removed from the brood chamber of the hive from which the super, Figs. 5 and 6, was removed. This frame came from right below the three super frames shown resting on the ground in Fig. 6. The light area to the lower right is honey. The brown area above the honey is dead bees. This colony did not starve certainly, but the bees show a tendency to get away from the honey below to that in the super. Is that worth thinking on?

There seems to have been no favoritism shown last winter. Weak colonies and big, powerful ones; colonies in single standard hives, in story-and-a-half and two-story hives; colonies in Modified Dadant hives, all went alike.

I seem to have suffered worse than anyone else in the neighborhood. What's the reason? I am buying up neglected yards of bees, many of them hived in boxes and in hives with no foundation, with combs built crosswise of the frames. Some of these yards are in fair shape with a good many very good colonies. The winter loss was only moderate in

these yards and but little evidence of diarrhea is apparent. Why?

I have a theory, but before going into that let me compare my management to that of the average beekeeper in northern Virginia. My practice is to get my bees as strong as possible and induce them to produce every pound of surplus they are capable of. This means good combs in the brood chamber and keeping the brood chamber as full of brood as possible. They are kept well supplied with supers so that the brood chamber is seldom crowded with honey. After the flow the queen, of course, slacks off in laying. This leaves a lot of empty comb in the brood chamber. This empty space was well filled last fall with aster honey. One ten-frame Quinby hive, equipped with nine Modified Dadant frames, weighed 90 pounds without the cover. Most of the stores contained in this hive was aster honey.

On the other hand, the common practice with beekeepers here is to place one section super on a hive at fruit bloom time and then go back in the late summer to see if it is filled. If so, the bees did well to their notion. A few will put on another super later on, or two at once. Just as many don't put on any supers at all. When these supers are filled, or even before, the bees fill up the brood chamber and then swarm. Aft-

er they swarm the brood chamber is even more completely filled. When the flow is over the brood chamber is completely filled, with the exception of a very small space left for brood, with summer honey. When a fall flow occurs there is little or no place for the honey. There is usually a young queen which keeps all available empty comb filled with brood. Consequently, when winter arrives the bees go into winter quarters on an abundance of well-ripened sealed summer honey. In this condition the bees were better able to withstand the three months' confinement they had this past winter. Usually the bees are able to have a flight every thirty to forty-five days — often much more frequently.

That is my theory as to why my bees suffered a 50 per cent or more loss while uncared-for bees exposed to every wind that blows suffered only minor losses. If I am right it shows that bees on good food can stand long confinement and that they don't freeze. Practically all these colonies (the uncared-for ones I am buying) wintered in single-story, standard hives or boxes. Therefore bees in single-story hives, during long confinement during a very cold winter (we had good stretches of zero to 10° F. below here this winter) do not even eat to the top bars of the frames and starve.

Analysis From U. S. Government Report First Half of March, 1936

State	% Loss	Weak	Unpacked	Packed	Cellar	Comment
Colorado	10 to 30					
Montana	Light	Many				
Wyoming	Lt. to Heavy					
Idaho	Some					
Utah	Light					
Red River Valley					Well	
South Dakota	Heavy on Summer Stands	Many			Well	Packed or unpacked on sum'r stands not stated
Iowa	0 to 50	Many				
Nebraska	10 to 75		Loss	Loss	Well	Some died with 50 lbs. honey. Loss due to severe protracted cold.
North Kansas	10 to 30					
South Kansas	5 to 20					Smartweed honey, long confinement blamed.
Michigan	0 to 75		Heavy		Normal	
Wisconsin	Heavy					Rather heavy stores.
Minnesota	8 to 40				Restless	
Ohio, Indiana, Illinois	10 to 50			10 to 20%		50% or more loss on outside wintered.
New York	Above Normal			Heavy	Restless	No flight since Nov. Most loss in pkd. cols.
Pennsylvania				Not Serious		
New Jersey	10 to 20					
Connecticut	Light to 35					
Vermont					Well	
Maryland	to 50		Heavy	Light		
West Virginia		Many				
Virginia	Not so heavy as year ago					Evidently southern Va. report, where many colonies starved in April, '35.

The Cost of Producing Honey

By J. W. Peterson,
Washington.

FOR many years I have been reading every article that came within my reach on the cost of producing honey. I study these articles with the idea of making my own accounts more accurate and up-to-date. In the last few years I have tried to spread my costs to include everything that might affect the cost of production and make the record more complete.

I cannot agree altogether with Mr. Charles Kruse. He does not figure interest on his investment. I do. I cannot see why I should not have interest on my money invested in the bee business the same as if invested elsewhere.

When Prof. Slocum was here as state bee specialist, he gave us a short rule to arrive at our cost of production. I think he said thirty pounds of honey from each colony for costs. I do not think this would be enough in these times, but when he was here it was different. It was during the World War and a few years after, and the thirty pounds would mean a great deal more then than now towards paying cost of production.

I remember during this period I took a few jars of honey with me every day when I went to the fair for someone who had spoken for it. I put the honey up in quart jars and sold them for \$1.00 each. They kept me bringing honey this way till I was all sold out. A jar contained about three pounds, and counting ten cents for the jar, I was getting thirty cents per pound for my honey. A different picture from today.

I have the circular of information, "Costs of Producing Honey in Oregon." On comparing these figures with my own I find they have their investment on hives and equipment somewhat lower than mine. I take it that their hive figures are estimated after a considerable amount of the original cost is marked off for depreciation. Mine is listed after deducting a five year depreciation from the original cost.

I herewith submit my statements:

Investment	
1 two-story hive complete with bees	\$10.00
Supers, 3 hive bodies, frames and foundation @ \$3.00	9.00
Investment for one hive of bees alone	19.00
Honey house and equipment for 100 colonies, \$300.00	3.00
Total investment for one hive of bees and honey house	22.00

Depreciation on investment for 5 years at 4%	4.40
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Total investment at present time, per hive	17.60
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Expenses

Labor, pre-harvest, an hour	\$.20
Labor, harvest including extracting, 4 hours @ .50	2.00
Transportation	.50
Interest at 5% on investment	.88
Yard equipment	.02
Depreciation on investment at 4%	.70
Queen every two years	.40
Taxes	.04
Rent for apiary sites	.05
Insurance, automobile	.10
Insurance, Fire on buildings	.05

4.94

Cr. by 1 1/2 pounds of wax @ .18 (by-product)	.27
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Total cost of producing, per hive	4.67
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This year my colony average was 131 pounds which would make my honey cost .03 1/2 per pound to produce. But this average does not happen very often.

Taking a five year average of 80 pounds per colony, the cost would be .059 per pound.

I put most of my honey in five-pound pails and sell to the stores at \$6.00 per dozen.

Canadian Booklet on Package Bees

"Package Bees and How to Install Them" is the name of a 12-page booklet just issued by the Minister of Agriculture, Ottawa, Ontario, Canada and written by C. B. Gooderham, Dominion Apiarist.

It recommends preferably the 2-pound packages although in some provinces where the season is late, the 3-pound may be used.

Coastal provinces may get bees by the last week in March and the interior provinces some week later or the first weeks in April.

Mr. Gooderham recommends early orders and specific date of shipment when ordering as there is very often considerable difficulty in getting orders expedited otherwise. He also recommends against any change in shipping date which is a very wise provision. Many beekeepers have been disappointed through specifying dates for shipment and then at-

tempting to change the dates when shippers' bookings are all taken.

It is also recommended to accept the shipment of bees whatever their condition, making proper notation on the express receipts and returning these to the shippers in the South who have better facilities for putting in claims than have the buyers in the Canadian provinces. Mr. Gooderham also recommends that after the bees are installed, instructions for which are given in the booklet, the colony should not be disturbed for seven days unless feeding is necessary.

Regulations are given for the importation of bees in Canada. The book is illustrated and very desirable for anyone importing bees from the United States into the Canadian provinces, particularly the beginner.

Copies of booklet may be obtained by addressing the Minister of Agriculture at Ottawa, Ontario, Canada and asking for Farmers' Bulletin 8, Publication 507.

ABJ

Honey-Soybean Bread

The writer has not in the past been particularly struck with the palatability of soybean foods. But here is one that really tastes good and at the same time is good for the beekeeper since it is made with honey for sweetening.

Soyette Bread was introduced to us by the Purity Baking Company at Champaign, Ill. They make it under a process leased to them by the Soybean Products Company at 4900 Flournay Street, Chicago. National distribution is being arranged.

Soyette bread contains 12% honey, 16% soybean product, the balance whole wheat flour, white flour, yeast, and salt. It is a brown bread of very delicious flavor and should find a ready market, particularly since the present tendency is to boost for consumption of soybean products.

A national effort on the part of beekeepers and farmers, to obtain Soyette when they buy a loaf of bread, would in itself make for a big consumption of honey and of soybeans.

Further particulars can no doubt be obtained by addressing either of the firms mentioned above. Every new avenue for honey makes for one more channel of demand, and one less chance of a glut in the honey markets. Beekeepers should make plans to boost such products along.

ABJ

Peat Moss As Smoker Fuel

I have just tried using peat moss in my smoker and find it is a fine fuel. It is long burning, has a nice odor. It should be kept lumpy if possible.

Ralph F. Fogg,
Ohio.

Honey Where the Water Flows



swamp. They are all on the river and creek banks so they will be accessible to our extracting barge.

"This barge is equipped to extract honey and store it below decks in barrels. It will carry two hundred barrels of honey besides extracting equipment, settling tanks, living and sleeping quarters for a crew, and all the extra equipment that is needed in visiting the various apiaries. The barge was built in 1933 and works fine. It surely is a labor saver where you have to work on rivers. We expect it to care for 1600 colonies."

HERE are a number of pictures sent to us by W. H. Marks of the Anthony Brothers Honey Company, Florida, to show how honey is produced in the river lands of that state where the tupelo yields its splendid nongranulating honey.

Mr. Marks writes, "I hardly ever see anything about Florida so I thought I would send you these snapshots of our apiaries on the Apalachicola River, where we produce tupelo honey. We have four yards with eight hundred colonies located on high scaffolds eight feet above the river



Top—Water behind the barge on Honison Creek. Number 2 Apiary is on this pretty stream. Trees overhanging are tupelo.

Left center—The Old King Bee, extracting barge, ready to take honey.

Right center—Number 4 Apiary in fine shape in early May. The mixed honey has been extracted and the hives are now full of tupelo, all three and four stories high. The scaffolds are eight feet from the ground.

Bottom—Number 2 Apiary of Anthony Brothers Honey Co. Three hundred colonies ready for the visit of Old King Bee.

Prize Winning Recipes 1935 Illinois State Fair

Honey Divinity

- 2 cups sugar
- 1/3 cup honey
- 1/3 cup water
- 2 egg whites
- Pinch salt

Boil sugar, honey and water with salt to 250° F. then pour a little at a time over well beaten egg whites. Beat hard until mixture crystallizes. Drop from teaspoon on waxed paper and press nut on top of each piece. The beating makes this candy.

— o —

Honey Caramels

- 2 cups sugar
- 1/2 cup light corn syrup
- 1 cup condensed milk
- 1/4 cup butter
- 1/2 cup cream
- 1/2 cup milk
- 1 cup honey
- 2 tsp. vanilla

Boil sugar, syrup, honey and pinch of salt rapidly to almost firm ball stage (250° F.). Stir to keep from burning. Add butter and milk gradually so that the mixture does not stop boiling at any time. Cool rapidly to firm ball stage (252° F.). Stir constantly to prevent burning. Pour in buttered pans. Cool and cut and wrap in waxed paper.

— o —

Honey Nougat

- 1 1/2 lb. sugar
- 1 lb. glucose
- 1/2 pint water
- 1/2 lb. honey

Cook the above to 262° F. pour 1/2 batch on 6 stiffly beaten egg whites. Cook other 1/2 syrup to 274° F. and pour over what you have just beaten. Continue beating till it is quite stiff, add 3/4 lb. nuts and pour in greased pans, when good and firm, not sticky any more. Be sure to beat constantly when adding syrup and 1/2 tsp. vanilla.

— o —

Honey Oatmeal Cookies

- 2/3 cup butter
- 1/2 cup honey
- 1/2 cup sugar
- 2 eggs
- 1/2 tsp. salt
- 1/2 cup dates
- 1/2 cup raisins
- 1/4 cup milk
- 2 cups rolled oats
- 2 cups flour
- 1 tsp. baking powder
- 1 tsp. cinnamon
- 1 tsp. nutmeg

Mix thoroughly and drop from spoon on greased cookie sheet. Bake 15 to 20 min. in moderately hot oven.

Honey Hermits

- 1/2 cup sugar
- 1/2 cup honey
- 1/2 cup butter
- 1/4 tsp. nutmeg
- 1/4 tsp. cinnamon
- 1/2 cup nuts
- 1/2 cup raisins
- 1/4 cup sour milk
- 1 tsp. soda
- Flour to make a soft dough

Drop on greased bake sheet. Bake 15 to 25 minutes in moderately hot oven.

Reported by Rutha E. King,
Illinois.

— ABJ —

Gedunkable Honey Doughnuts

For as long as we can remember, doughnuts have always been the same conventional round shape with a hole in the center. And for years, we have always broken a doughnut in half with the result that the sugar which had settled in the hole fell into our lap or sprinkled itself over our vest.

Imagine, then, our delight when we discovered a new doughnut—a streamlined doughnut, if you please—and with a brand new delicious flavor of particular interest to beemen.

We are referring to "Honeymoons" which have just recently made their appearance on the market.

Honeymoons derive their name from their distinctive half-moon shape, made possible by an exclusively patented process, and from the fact that each doughnut contains a liberal quantity of pure white clover honey.

They are now produced by more than fifty leading bakeries throughout the eastern and middle-western states. According to the Dawn Donut Company, Inc., of Jackson, Michigan, sponsors of this new "Easy to Dunk" delicacy, Honeymoons will soon be produced throughout the country, backed by a powerful advertising campaign in which the liberal honey content is popularly stressed.

The mixture from which Honeymoons are made is a special preparation of which about 40 per cent of the sweetening is pure honey. It was developed in the laboratory of the Dawn Donut Company after extensive experiments and imparts to the doughnut a rich, and unusually tempting flavor not found in the ordinary type of fried cake.

According to Kenneth MacKenna of the Dawn Donut Company: "The baker is fast realizing the almost universal appeal of honey as a flavoring for baked goods. Within the past year or so, we have seen numerous baked products introduced which contain honey and which feature honey

in the name. All of them have been extremely successful because of the popular appeal of this natural sweetening."

Relative Moisture Content of Syrups and Honey

So few homemakers take into consideration the relative moisture content of honey and the commercial syrups.

According to the figures of the U. S. Bureau of Chemistry, Carbohydrate Laboratory, we need to dilute honey on the following basis to have its moisture content comparable to the syrup specified:

1 cup honey plus one-third cup water would equal density of maple syrup.

1 cup honey plus one-fifth cup water would equal density of corn or cane syrup.

1 cup honey plus two tablespoons of water would equal density of molasses.

These calculations are based on average values for the water contents of honey and the various syrups listed; the average content of honey is taken as 17.5%.

For home use on cereals, candying sweet potatoes, parsnips, baking apples, etc., honey diluted to equal the density of maple syrup works very well. Keep a bottle of diluted honey for general kitchen use. Blend three cups of honey with one cup of hot water, stir well and keep in cold place.—American Honey Institute.

— ABJ —

Iowa Homemakers' Bulletins

We have just received from Prof. Paddock a number of bulletins used in the Homemakers' half hour talks over WOI, Iowa State College. There are the following titles: "Uses of Honey" by Lulu Tregoning and F. B. Paddock, revised by Helen Swinney; "Radio Discussion for National Honey Week" by Mrs. F. B. Paddock; "Honey in the Child's Diet," by Alma H. Jones; "Beekeeping in Iowa," "Improved Production," "Starting Right With Bees," "Calendar for Honey Producers," "Package Bees," "Early Apiary Activities," "Building Up for the Honey," "Swarming in the Making," "Quality Queens," "Preparing for Extracted Honey," "Stock Improvement." If you are interested in these releases, write to F. B. Paddock, Iowa State College, Ames, Iowa.

The Mineral Constituents of Honey

By R. E. Lothrop,

Carbohydrate Research Division, Bureau of Chemistry and Soils,
U. S. Department of Agriculture.

COMPARATIVELY little is known about the composition of the mineral components of American honeys. Schuette and Remy at the University of Wisconsin have determined the composition of the minerals of some American honeys with respect to their contents of iron, manganese, copper and silicon. However, they did not report the proportions of other elements, such as phosphorus, calcium, magnesium, potassium, sodium and chlorine, which certain foreign investigators have found to be most abundant mineral elements present in honey.

Apparently there is considerable variation in the proportions of the various mineral elements found in honey obtained from different sources. For example, Elser found the minerals of German honeys which he examined consisted largely of phosphorus and calcium. Kapeller and Gottfried also found a large proportion of the ash of German honeys they examined to consist of phosphorus. On the other hand, Svoboda in his examinations of honeys of Subcarpathian Russia found that potassium was the predominating mineral element present. Jewell recently made a fairly complete examination of a number of Canadian honeys from this standpoint, and found that in every case potassium occurred in larger proportion than other mineral elements. He also found substantial amounts of phosphorus and calcium to be present.

A study of the composition of the minerals of American honeys, par-

ticularly with respect to differences in the various floral types, and soil and climatic variations, undoubtedly would yield results of both interest and value.

While honey is primarily an energy food, consisting mostly of sugars, it does contribute definite quantities of other food elements to the diet, among which are the mineral elements. When considering the minerals of a foodstuff from a dietary standpoint, it is important to take into account the quantity and nature of the various mineral elements supplied to the body by that foodstuff. Honey contains definite quantities of certain mineral elements which are important from a nutritional standpoint. The quantity of mineral elements present varies considerably among the various floral types of honey, being somewhat greater as a rule for the dark-colored than for the light-colored varieties.

In addition to the question of the nature and quantity of mineral elements contributed to the diet by honey, we must consider the reaction of the minerals present, since this also is a dietary factor. By reaction is meant whether the minerals are predominantly acidic or predominantly alkaline in nature. The classification of foods as acid foods or alkaline foods is dependent almost altogether on the nature of the mineral elements present. Oranges, lemons and fruits in general are quite acid to the taste, but as foods they are potentially alkaline. Like them, honey is also slightly acid to the taste, but as a food is potentially alkaline. This might seem somewhat paradoxical at first, but it is quite simple to understand if we consider what takes place when foods undergo digestion and metabolism in the body. Certain foods, such as oranges, lemons, and even honey, are sour or acid to the taste because they contain organic acids such as citric, malic and others. Now these acids, along with sugars and starches present in foods, are very largely burned up in the body during digestion and metabolism. These acids, therefore, do not play a part in the acid-alkaline balance of the body. The reaction of the food then is dependent almost altogether on the mineral elements present.

Foods vary widely as potential sources of acid or alkaline products

in metabolism. In general, meats, fish, eggs, bread, wheat, and the cereals contain a preponderance of acid-forming elements. Fruits, vegetables and milk, on the other hand, contain a preponderance of alkaline-forming elements. The mineral content of commercial fats, sugars and starches is too low to be of any significance from this standpoint.

There is no general agreement among food authorities as to the relative importance of the acid-alkaline balance of the diet. Some feel that the importance of maintaining somewhere near a balance between acid-forming and alkaline-forming foods, or of maintaining an alkaline balance in the diet, is greatly overstressed.

There is no record of any work having been done relative to the determination of the acid-alkaline balance of honey as a food. Many food authorities have considered that the mineral content of honey is too small to be of any appreciable importance in the diet. As to whether or not this view is justified is open to some question.

In order to obtain some definite information on various types of American honeys from this standpoint, an investigation was carried out by the Bureau of Chemistry and

TABLE II
Potential Alkalinity of Some Common Fruits and Vegetables*

Food	Approximate Potential Reserve Alkalinity (cc. normal alkali per 100 gms.)
Apples	3.7
Asparagus	0.8
Bananas	5.6
Beans	14.0
Beets	10.9
Cabbage	6.0
Cauliflower	5.3
Celery	7.8
Citron	9.8
Cucumbers	7.9
Lemons	5.0
Lettuce	7.4
Mushrooms	4.0
Olives	45.0
Onions	1.5
Oranges	5.6
Orange Juice	4.5
Peas	1.3
Peaches	3.6
Pears	7.0
Potatoes (white)	6.7
Potatoes (sweet)	5.0
Pumpkin	1.5
Radishes	2.9
Tomatoes	5.6
Turnips	2.7
Watermelon	2.7

*Taken from Sherman's "Chemistry of Food and Nutrition," 4th Ed., p. 276 (1932), published by The Macmillan Publishing Co., New York, N. Y.

TABLE I
Potential Alkalinity of Honeys of a Variety of Floral Types

Floral Type	Color Number (Pfund-color scale)	Potential Alkalinity cc. normal Ash alkali Content % per 100 gms. honey
Sweet Clover	0.6 (W. White)	0.04 0.27
Orange	1.2 (Ex. White)	0.05 0.50
White Clover	3.0 (White)	0.08 0.66
Sage	3.1 (White)	0.07 0.57
Tupelo	4.0 (Ex. Lt. Am.)	0.09 0.84
Mesquite	4.5 (Ex. Lt. Am.)	0.61 3.22
Catsclaw	8.5 (Amber)	0.22 1.86
Goldenrod	8.5 (Amber)	0.16 1.05
Tulip-Poplar	11.5 (Dark)	0.30 2.68
Dark (unknown)	12.0 (Dark)	0.51 4.57
Buckwheat	13.5 (Dark)	0.10 0.42
Average:		
Light honeys		0.16 1.01
Dark honeys		0.26 2.12
All honeys		0.20 1.51

TABLE III
Foods in Which Acid-Forming Elements Predominate*

Food	Approximate Potential (Acidity (cc. normal acid per 100 gms.)
Beef	12
Eggs	11
Oysters	15
Oatmeal	12
Rice	9
Wheat	12
Wheat flour	9
White bread	6

Soils of the U. S. Department of Agriculture, utilizing a number of the more representative types of American honeys. The samples used in this work varied in color from water white to dark, as determined by the U. S. Standard honey color grader.

The method of Davidson and LeClerc was used for determining the acid-alkaline balance of the honeys. It consists of igniting a definite quantity (50 grams) of honey in a platinum dish under controlled temperature conditions until all organic matters (sugars, etc.) is completely burned, leaving a white ash as a residue. This ash was found to be distinctly alkaline in case of all honeys studied. The ash is then neutralized with acid of known strength, the quantity of acid used being a measure of the alkalinity of the ash.

The value obtained in this way is not a true measure of the acid-alkaline balance of the honey, since part of certain mineral elements (chlorine and sulphur) is volatilized in the burning process and therefore is lost to the determination. The quantities of these elements lost in the ashing process must be determined separately, and a correction made in the value obtained by neutralizing the ash, in order to correct for the loss of these elements that occurs in burning.

The principle of this method of determining the acid-alkaline balance of foodstuffs is based on the assumption that in the processes of animal metabolism foods are undergoing combustion with ultimate effects approximating those that result from combustion either in an electric furnace or other equivalent heat.

All of the honeys tested in this manner gave definite alkaline values. With a few exceptions, the darker honeys gave higher alkaline values than the lighter varieties, due to the generally higher ash content of the darker types. In consideration of the low mineral content of honeys in general, it might be interesting to note that alkaline values for some of the honeys studied compare favorably with some of the fruits and vegetables. Values for the various honeys studied are summarized in Table I. Tables II and III give com-

parative values of some of the more common foodstuffs.

In conclusion it might be stated that if the question of maintaining the proper acid-alkaline balance in the diet is important, then definite significance can be attached to the reaction of the mineral constituents of honey from this standpoint.

—ABJ—

Honey Adulterators Fined

The press information bureau of the U. S. Department of Agriculture announces a number of prosecutions and fines for adulteration of honey. One of these was against the Silver Label Products Co., Inc., Brooklyn, N. Y., who were assessed a fine of \$2,374 in Federal Court.

Thirteen shipments of honey were seized containing an adulteration with liquefied invert sugar. Also there was some short weight. The press bureau states that very few adulterations of honey are now taking place.

—ABJ—

Honey Crop in New Zealand

Reports are to the effect that the New Zealand crop will be far from normal this year. As our readers well know, New Zealand on the other side of the equator has just passed through their crop year and is now going into winter. In many instances, bees do not have sufficient stores to carry them satisfactorily for the winter season and are having to be fed.

—ABJ—

Use Sparingly

Hast thou found honey, that is, the sweetness of friendship, eat that which is sufficient for thee, use his friendship to sobriety . . . for it is better by seldome coming to make thy presence desirable than by frequent visits to make him weary of thee.—Adapted from an early writer. (W. H. Hull, Virginia.)

—ABJ—

A Children's Bee Book

In the ten-cent series of the Rand-McNally children's books, comes a new book "The Busy Little Honeybee" by Josephine Morse True.

Put out with an attractive stiff cardboard cover, it makes a very nice little book for the children and is illustrated with a number of drawings accompanying the text which are also desirable.

The little booklet describes the honey gatherers, the hive itself, the queen bee, the new swarm, the hatching baby bees, the drones and the honey.

All in all, it is very well worth the price asked for it.

Honey and Beeswax in the Trade Agreement Program

Under the Trade Agreements Act of June 12, 1934, the President may enter into foreign trade agreements with foreign governments and may proclaim such modifications of existing duties or such continuance of existing tariff status of any article covered by such agreements as are required to carry out any foreign trade agreement entered into under the Act. To date, 12 Trade Agreements have been put into effect.

The first Trade Agreement was with Cuba. Under the terms of that agreement effective September 3, 1934, the duty on honey from Cuba was reduced from 2.4c per pound to 1.2c per pound. The duty of 3c per pound on honey from other countries was not changed at that time. The reduced Cuban rate does not apply to honey produced in any other country and it is bound against change during the life of the Cuban agreement.

Under the Trade Agreement with Brazil effective January 1, 1936, beeswax not bleached or manufactured was bound on the free list during the life of the agreement. This applies to such beeswax imported from any country except Germany.

Under the Trade Agreement with Guatemala, effective June 15, 1936, the duty on honey was reduced from 3c to 2c per pound and was bound against change at this lower level during the life of that agreement. Reductions in duties made by the United States in connection with these agreements are applied to imports from all countries except those that are found to be discriminating against the commerce of the United States. Up to the present time Germany is the only country that has been so designated. If honey were imported from Germany it would pay 3c per pound duty.

On the other hand, Belgium has recently reduced her duty on imports of honey from a basis of 1.41c per lb. to .92c per lb., and in the Trade Agreement with Canada the duty on honey imports was reduced from 3c per lb. to 2½c per lb.

—ABJ—

Bounty on Honey

The Australasian Bee Journal has a discussion on the possibility of a bounty on honey which is proposed by Australia and New South Wales. Such a bounty apparently would be placed by the government to insure better export trade and better price for honey raisers. The discussion is both pro and con on the value of a bounty.

Honey Getting

PART IV

Securing Uniformity in Colonies

By E. L. Sechrist,
Tahiti.

THIS continues the articles on "Honey Getting" by Mr. Sechrist (the fourth number). The previous three numbers were titled as follows: No. 1—"An Introduction" in March page 123. No. 2—"Essential Factors in Profitable Honey Getting and How to Provide Them" in April page 188. No. 3—"A Clear Brood Nest Method" in May page 245.

Summary of Parts 1, 2 and 3

Swarm control is the foundation of success in honey getting. Successful beekeepers manage to retain control of the queens of the colony with the least labor. Brood nest must allow the queen to lay as many eggs as needed, immediately under the supers in which honey is to be stored.

Essential factors are adequate colony population, location in a good honey producing area, a prompt beginning of work in the supers, continuation of work without interruption, continuous replacement of bees that die, strength enough at the end of the season to carry to the next honeyflow.

This means a good queen, plenty of stores, a large brood chamber under the supers, control of swarming, room to store honey.

All management may be classified under either the free queen method or the clear brood nest method. The clear brood nest method includes systems in which the operator confines the queen to the brood chamber of one or more hive bodies in which a brood nest is maintained where the queen may lay freely when her bees will be of most value.

The essentials of practice in the clear brood nest system are: (1) A brood chamber full of all worker combs, clear of honey so there is plenty of room. (2) All colonies at approximately uniform strength and (3) all colonies kept queenright. Nuclei in full size hives are commonly employed to provide a stock of queens for replacement or increase. (5) All laying queens are clipped or similar control is obtained in some other way. (6) An apiary is worked every eight or ten days during the

swarming season, colonies are handled so the bees remain good tempered, the control of foulbrood and other diseases must be assured.

There are three systems of management in the clear brood nest method. (1) The one-story clear brood nest system, using only one hive body. (2) Two-story clear brood nest system using two hive bodies throughout the year and (3) two-story clear brood nest system using two hive bodies for winter and for brood until the beginning of the flow when the colony is confined to one body. Only one system should be used in an apiary.

PART 4 THE ADVANTAGES OF UNIFORMITY IN COLONIES

Uniformity of colonies cannot be stressed too much. It is a factor of utmost importance in honey getting just as it is in substituting bee labor for man labor. Not only is much less work required of the operator in apiaries having all colonies of uniform strength but the work may be systematized and done more quickly with the use of fewer skilled helpers than when colonies are not uniform.

With uniform colonies, the work necessary at any visit to an apiary

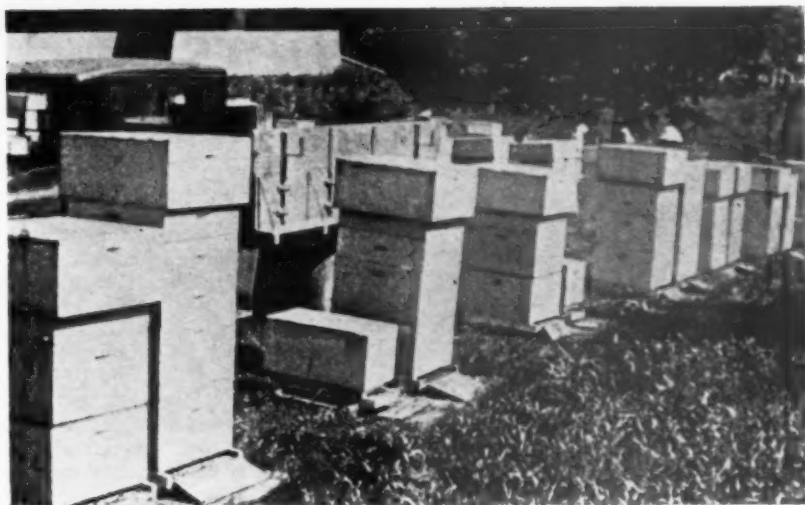
may be reduced to a routine of similar operations for each colony and so one expert operator can do much work in a short time with the assistance of one or more helpers, even though they are inexperienced.

If all colonies in an apiary are uniform even an unskilled man will soon learn to know, immediately a hive is opened, just what is to be done. On the other hand, if, because of lack of uniformity, helpers must wait for detailed instructions as to what any colony needs, a great deal of time is consumed.

In any clear brood nest system of management, uniformity of colonies is the first essential, therefore, to maximum honey production at the lowest cost. Statistics show that the operator with all his colonies in uniform condition equally populous and up to standard honey storing strength at the right time, succeeds in getting a crop much larger than his neighbor who has, when the honeyflow begins, colonies of all sizes occupying from one up to four or five hive bodies. Though a few good colonies in any apiary may give high individual yields, the many low producers cut down the average very materially.



When operations are systematized, an expert manager, with helpers, can do a great deal of work in a short time.



Combs of brood removed are often used in forming nuclei, here seen beside the full colonies.

The exact procedure to be followed for uniformity of colonies depends on whether American foulbrood is absent or more or less prevalent. If the operator does not eradicate this disease from his apiaries, he cannot safely shift combs of brood or honey from one colony to another. American foulbrood, however, can be eradicated.

SECURING UNIFORMITY

Good combs, good queens, sufficient stores for spring brood rearing, and a constantly clear brood nest are essential in securing uniformity of colonies. There must be room to rear, provision, and house a goodly population. In efficient practice, no colony that will not reach a strength which the operator pre-determines as his standard honey storing strength is assisted, nor does he permit any colony to become strong enough to swarm or to exceed the most effective honey storing strength.

To prevent this, brood is "pulled" (combs taken out) and used in strengthening weaker colonies or nuclei, or colonies are divided. Not enough brood is taken from any colony to prevent its reaching standard honey storing strength at the beginning of the honeyflow, but no colony is allowed to reach this strength in advance of the honeyflow. The aim is to have all colonies strong enough for effective storing of honey when the flow begins.

Use of the clear brood nest method results in uniformity of colonies that is seldom, perhaps never, possible where the queen is permitted to have free reign in several brood chambers, but where no brood nest is kept clear for her. Uniformity is possible when all queens have plenty of room in which to lay and when the quality of queens is controlled through replacement, when they have undesirable qualities or become unprofitable.

Uniformity is not obtained when queens are replaced once a year irrespective of their quality, unless the operator ruthlessly weeds out and unites all colonies that do not come up to a certain standard. Seldom will an operator do this unless it is an essential part of his system of management.

Colonies are made uniform and brought to standard honey storing strength in clear brood nest systems by taking away or giving them brood when necessary, as already described in the article in the May number "A Clear Brood Nest Method." This is done by dividing them when combs of brood are needed in making nuclei, as discussed under the section on using nuclei and making increases or by strengthening with young bees from populous colonies, by shaking the bees off of one or more combs in front of, and allowing the young bees to run into the entrances of the weaker colonies.

If colonies have been worked for uniformity, a mere glance at the entrance and another at the top of the frames enables the expert to determine if the colony varies from the standard and thus requires attention. If the colony appears to be standard, the routine operations for the visit are performed by his helpers while he devotes his time to management. If few colonies vary from the standard in the apiary, it is evident that work will go on rapidly.

When a critical visitor at the apiary finds a colony one or two stories high, the next one three or four stories, and an occasional sky-scraper, he may at once suspect some flaw in management. But during a honeyflow when every colony, unless it be a nucleus or recent increase, is of uniform strength and supering, and when all colonies are working about the same, it is evident the operator knows his location and his bees and is prepared

for honey by securing uniformly strong colonies, so essential for good production.

Keeping Colonies Queenright

The practice of keeping colonies queenright is part of swarm control and is of prime importance in clear brood nest systems in which the colony is the unit of management. Colonies which have swarmed, or that are preparing to swarm in spite of ordinary precautions, or that have inferior queens, should be requeened with virgins or with cells, and their queens, if good and of the previous year, should be caged and used whenever a virgin queen in a colony or nucleus is lost in mating or otherwise, which may be told by an examination about the ninth day.

If combs have been made ready for worker eggs, the queen is later mated; but if drone cells are polished up, the young queen is missing and then it is well to introduce one of the good caged queens taken from some colony which insists on swarming and which has been given a cell or a virgin or a mated queen from a nucleus.

Introduction at such times is readily accomplished by placing the queen in a cage stopped with a bit of honey and wax (as burr comb) so that the queen may be released soon, and placing this cage on top of the inner cover over the bee escape hole, covering the hive with newspaper and pressing the outer cover down over it. The newspaper gives protection from the sun, robbers, etc., and marks the colonies to which queens have been given.

Queens could be introduced safely perhaps by placing the cage between two combs or in the entrance of the hive; but putting the cage on top is a good method of introduction and gives a record for the next visit. Queens introduced at the top of the hive have excellent acceptance because they are soon released and readily accepted by the young workers in the supers.

These queens soon descend into the brood nests and, when they begin to lay, the honey which has been stored in the brood chambers during the queenless period, is moved quickly into the supers, thus giving the appearance of a honeyflow when in reality, there may be none. This stimulated honeyflow must be considered when putting on additional supers.

Any other system of queen introduction which affords similar results can be used, the principle being a good queen in each hive when needed for egg laying.

In the spring, hives in which colonies have died, or colonies that are not up to standard spring condition, and extra hive bodies of brood which

(Please turn to page 356)

Lives of Famous Beekeepers

By Kent L. Pellett,
Iowa.



Conclusion of the Life of DR. CHARLES C. MILLER

He possessed the rare literary gift of fine and accurate distinction between what he knew to be true and that which was doubtful or which had not been demonstrated.
—Orel L. Hershisier.

AT the time of his second marriage Dr. Miller was fifty years old. He had had his share of buffeting and grief and failure, perhaps had accomplished nothing it had been in his heart to accomplish. The trying years when he had endured poverty and had attempted to establish himself as a doctor, the strenuous life of the traveling salesman, had taken their toll of him.

His features, however, were cheery and genial behind the smartly trimmed full beard. And the face grew more kindly as the beard turned white. The strain of life forces some men to a narrow view and a sharp tongue. But the doctor grew broad by his experience. He cautiously ferreted out the best life had to offer and out of it made a mellow philosophy. People began to call him the "Sage of Marengo" as he grew older.

Early during his beekeeping Dr. Miller had subscribed to the American Bee Journal, and had paid a visit to A. I. Root at Medina, Ohio. Root still was in the jewelry business, but he had started to keep bees, and he was writing to the Journal under the name of "Novice."

The Doctor soon became a close acquaintance of Root, who soon started his magazine, "Gleanings in Bee Culture." He formed a friendship with George W. York, then editor of the American Bee Journal. He was soon writing for both magazines. York, who had not kept bees until he became editor of the Journal, needed the help of practical men. Miller came to his rescue and was listed as one of the editors. He conducted the column, "Dr. Miller's Answers," and endeavored to answer any question the beekeepers might ask. The department became an institution with the Journal, and he continued it until the time of his death, long after Editor York had given over the

ownership of the Journal to Dadant & Sons.

Miller also conducted a column of short paragraphs, which he called "Stray Straws," for Gleanings in Bee Culture, and he continued it almost as long. He was still writing "Stray Straws" when Editor A. I. Root, too, had retired from the scene as an active participant in the affairs of his firm. He took a paternal interest in both editors, spoke of them as "my boys," and served as a guiding light for both magazines.

Dr. Miller now used his hard-earned knowledge of foreign languages to read all he could of foreign bee lore. There probably was not a man better informed in both the practice and literature of beekeeping. In 1885 the American Bee Journal published his little book, "A Year Among the Bees," which outlined in simple style what he had learned of beekeeping practice. As his life and his beekeeping were further rounded out, more editions of the book were published, and the name first was changed to "Forty Years Among the Bees," then "Fifty Years Among the Bees." The later editions told the story of his beekeeping from the days when he had been a music teacher keeping but a few swarms. In 1917 the American Bee Journal published "A Thousand Answers to Beekeeping Questions," which contained the best of his answers in the Journal, as compiled by M. G. Dadant. All the books had a wide sale, and the latter two still are in print.

Dr. Miller carried on a large private correspondence with beekeepers, in addition to his columns and his other writings in the journals. Bee men, from scientific leaders to novices in the bee yards, consulted him. And he answered them all, full of knowledge of his subject, with humor and yet with humility.

"I wonder if you know what an

old humbug I am, anyway," he wrote to one of his correspondents. "I pose as knowing things about beekeeping, and then when I get myself off by myself and meditate on the pile of things I don't know, it's so big that the other pile dwindles down very small indeed. Well, we're all poor critters."

He wrote with the greatest intimacy to his friends, and did not hesitate at all to end a letter with, "I love you." Characteristically one time he ended a postcard to a man he had never met with the words, "Tell Mrs. Byer I just love that good man of hers."

The doctor was popular at the conventions, which he usually attended. The white-bearded old man with the jovial face held the center of the stage with his little jokes, his observations. And his influence was felt in the conduct of the associations. When the leaders fell into disagreement it was Miller who was called upon to straighten them out. He led in the singing, set the beekeepers' songs of Eugene Secor and others to music and sang them at the conventions. No convention in those days was complete without him.

But above all he was happiest in his home. Without doubt he spent his best hours there. He once wrote, "I count myself singularly blessed in having a home where all members of the family are so united in their tastes and enjoyments. One of our chief earthly pleasures is the love of flowers. At our quiet country home we have room unlimited for producing summer roses by the bushel, and the bay window of the sitting room brightens the days of winter with its bright colors and luxuriant greens."

Editor York, who had visited at his home, exclaimed, "His home life with his wife and her good sister! Wasn't it beautiful? Just a bit of

heaven itself dropped down on earth."

Dr. Miller lived to be almost ninety. Even in his later years he raised bumper crops of honey, and some of his per-colony averages for comb honey came close to being world records. A few years before his death, when most men are contented to confine their activities to a rocking chair, he took up the growing of gladioli. Horticulturists were beginning to place the flowers on the market commercially. The Doctor grew the bulbs for sale by the thousands. But the flowers themselves were not for sale. The cuttings not used in his own home he sent daily to a children's hospital in Chicago, without charge. The hospital was his best customer, he said.

In 1920 five prominent beekeepers after attending a convention drove to Marengo to see Dr. Miller. They knew he was nearing his ninetieth birthday, and feared he might be failing. They found him at work among his flowers, as full of good humor as ever. He explained to them that he was growing the gladioli bulbs on a commercial scale, and was carrying on experiments in cross pollination. He had made hundreds of crosses, and from these he had selected about twenty of the best flowers. From these twenty perhaps he might get half a dozen new varieties of gladioli. Little difference did it make to him that it might take ten years to get enough bulbs to offer a new variety for sale.

He was crazy about gladioli, he said, and jokingly refused to tell his visitors how much he had paid for rare bulbs, lest they think him crazy indeed.

Dr. Miller's death was announced two weeks after that visit. He was ill only a few days. And in his typewriter after his death was found a part of a sheet of answers to questions that he had been composing for his department in the American Bee Journal.

—o—

A year later, on June 12, just two days after his birthday, the Doctor's Sunday school held memorial services for him. A large picture of him was unveiled in the rooms of the Presbyterian church where he had been an active attendant. Judge E. D. Shurtleff, one of his former pupils, made the chief address, expressing appreciation for their departed teacher and townsman.

Two years later, in the same church, the bee men of the nation, after many arduous months of work in raising funds for a memorial, unveiled a bronze tablet to him in the same church. Three hundred and fifty beekeepers were assembled there. Such well known leaders as

C. P. Dadant, Prof. H. F. Wilson and Dr. E. F. Phillips gave addresses.

The wording on the tablet read, "This Tablet is erected by beekeepers to Charles C. Miller a former resident of Marengo in appreciation of his services to beekeeping and as a mark of esteem a library of beekeeping literature has been endowed at the University of Wisconsin to his memory."

The dedication of the tablet at Marengo was on Saturday. The bee men had spent the first of the week at Madison, Wis., where a beekeepers' Chautauqua had been held. There they had dedicated the Miller Memorial Library, assembled at the University of Wisconsin by donations of books and magazines and money from beekeepers all over the world. Tributes had been read from Switzerland, Belgium, France, England, Australia, New Zealand, Italy and Ireland.

After his death it was felt that beekeepers should erect a memorial to Dr. Miller, and eventually many bee magazines and countries were drawn into the movement. It was shortly after the World War, when people were tired of drives, of giving for sundry enterprises, and the fund was raised slowly. But when the committee in charge decided that the money would be used as an endowment for a library, the memorial grew like a rolling snowball. Magazines and books poured in, and beekeepers everywhere sent their dollars. Some beekeepers set aside the income of colonies in their apiaries for the fund. Dr. Miller's own modest library that the American Bee Journal had purchased after his death, was sent to Madison. Arthur C. Miller of Rhode Island gave his entire personal library, more than a thousand dollars in value.

By 1926 the library had been well established under Prof. H. F. Wilson. An inventory showed over 5,200 books and magazines, and \$3,358.76 in the endowment fund. Since then it has grown constantly. In 1930 the trustees purchased the beekeeping literature of Col. H. J. O. Walker of Devon, England, which had been started by the old English bee master, Alfred Neighbour, about 1850. This contained 1,200 volumes.

Thus it happened that the most important work of Dr. Miller was accomplished after his death, and by other hands. When he is forgotten for his knowledge, his helpfulness and his fine personality, the beekeeping library now the most extensive in the world and probably the most impressive memorial ever raised to any beekeeper, will remain to honor his name.

Canadian Honey Bulletin

"Honey and Some of the Ways It May Be Used" is the title of a 20-page bulletin just issued by the Department of Agriculture of the Dominion of Canada. The bulletin was written by C. B. Gooderham, Dominion Apiarist and M. L. Heeney, specialist in the cooking and preserving of foods.

As its title indicates, the bulletin has to do with the uses of honey particularly in cooking. It covers the use of honey in the preparing of bread and rolls, cakes, cookies, candy, puddings, pies and ice cream, muffins, doughnuts, etc., breakfast fruits sweetened with honey, marmalade and fruit butters, honey sandwich fillings, besides miscellaneous items such as honey icing, etc. There are also a few paragraphs devoted to the canning of fruits with honey. For the canning of strawberries and plums, the proportion to be used by measure was one quart honey to 1½ quarts of water boiled and skimmed. Then pour it over the fruit and handle by the cold pack method as usual.

For other fruits the proportion of honey and water is one to one by measure. The booklet will be found interesting and instructive to anyone.

—ABJ—

Why Doctors Favor Corn Syrup

A doctor friend of mine, a lover of out-door life, especially of bees, was accosted by me thusly: "Why is it, Doctor, that all you doctors recommend sugar or corn syrup as sweetening for babies' milk when you know that good honey is far superior?"

"You've said it, good honey. Were we doctors to recommend honey and a baby should become ill as a consequence of sweetening its food with some inferior honey, we would be held responsible."

Here's hoping for standardization, selection and discrimination in honeys the same as in other foods.

[This is a very important point and universally true in the medical profession. Until honey is standardized, it cannot be recommended.—Ed.]

Joe Marty,
Oregon.

—ABJ—

The Bitterness of Revenge

Revenge commonly hurts both the offerer and the sufferer, as we see in the foolish bee which in her anger envenometh the flesh and loseth her sting . . . I account it only valour to remit a wrong, and will applaud it to myself as right noble and Christian that I might hurt and will not.—Samuel Purchas. (W. H. Hull, Virginia.)

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Wabash Valley Round-Up

We have noted before the great meeting to be held at the apiary of Lee Stewart, Newport, Indiana, on September 12. The meeting will be held rain or shine on the date given; one of the biggest of the Mid-West meetings of the season.

Here is the programs without the details:

"Anatomy of the Honeybee," by Prof. B. Elwood Montgomery, Purdue University.

"Factors Influencing Honey in Storage," by Dr. V. G. Milum, University of Illinois.

"Queen Rearing for Honey Production," by Chas. Kruse, Paris, Ill. Demonstrations:

"Preparation of Supers," by Clinton Walthal, Newport.

"Cut-Comb Honey," by Jas. E. Hilbert, Traverse City, Michigan.

"Removing the Crop with Carbolic Acid," by G. H. Cale and Jas. C. Dandant, Hamilton, Illinois.

"Modern Extracting," by A. G. Woodman, Grand Rapids, Michigan.

"Queen Introduction," by Jas. E. Starkey, Indianapolis.

"The Value of Honey as a Food," by Malitta F. Jensen, American Honey Institute.

At 12:00 noon basket lunch supplemented by Wabash Catfish Fry and Band Concert.

1:00—Five-minute talks by speakers to be selected on day of meeting.

"Factors Influencing Nectar Secretion," by Dr. Ben Smith, Indiana State Teachers College.

"Uses of Honey in the Home," by Malitta F. Jensen.

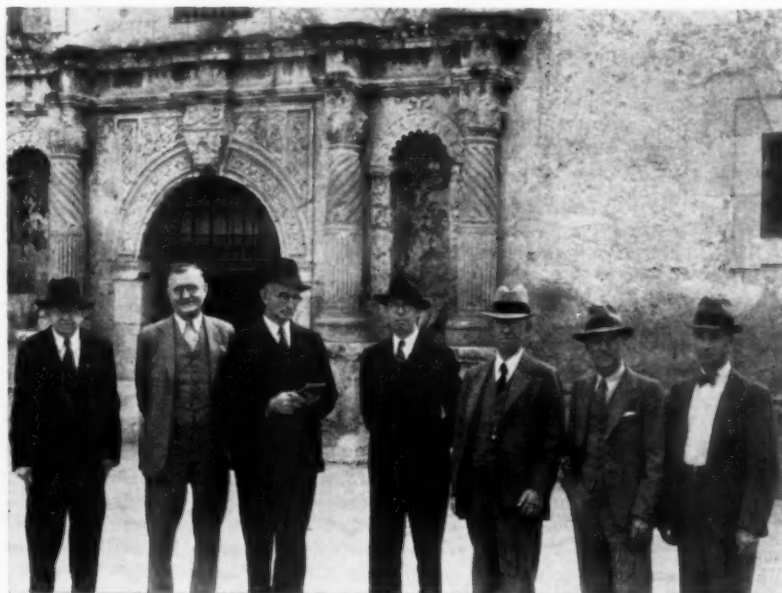
Contest Drawings.

"How I Winter and Why" ten-minute talks by G. H. Cale; Ross Scott, Jas. E. Hilbert, C. L. Duax, Harley Walker, and E. F. Peterson.

This program has been made practical with a discussion of subjects of interest by talent nationally known. It will be interesting to the women as

—ABJ—

Before the Alamo



THESE folks went a long way in planning the great Texas Meeting for November. We all want to go to that, with its Mexico side trips, its hunting and its cordial visits among the southern friends. And the

great Texas Centennial, too.

From left to right: H. B. Parks, Guy LeStourgeon, Tom Burleson, Professor Thomas, E. R. Root, Frank Pellett, and Doctor Park.

well as to the men; to the back-lotter as well as to the carload producer. If you have any pet ideas on equipment, bring them along and they will be put on display.

Lunch: Basket picnic but if you have no basket, come anyway. A Wabash Catfish Fry consists of fried catfish, potatoes boiled in their jackets, a relish and a drink, all supplied by the host. Last year we had 128 pounds of dressed fish, 25 gallons of coffee and ice tea, $\frac{1}{2}$ bushel of boiled potatoes, $\frac{1}{2}$ bushel of sliced tomatoes and 4 gallons of combination salad.

Music will be furnished by the Newport High School Band, a well trained, uniformed organization of 38 pieces under the direction of Prof. Homer W. Broadus.

The speaking program will be under canvas with comfortable seats. Demonstrations will be in the bee yard and honey houses. All queens used in the demonstrations will be furnished by Herman McConnell, Robinson, Illinois, and all sections and foundation by A. J. Thomas of the C. M. Scott Hardware Co. of Indianapolis.

Register as soon as you arrive. There will be a registration drawing and the winner will receive a beautiful pair of Art Candles donated by the A. I. Root Company of Indianapolis. Don't forget a meeting is one of the best sales marts in the country, a good place to sell and a good place to buy.

Newport is in central Indiana on the Illinois line, 24 miles south of Danville, Ill., and 31 miles north of Terre Haute, Indiana, on Indiana State Road 63, seven miles north of U. S. 36, 15 miles west of U. S. 41 and 15 miles east of Illinois 1.

We are putting out 5,000 programs, each one numbered. Duplicate numbers will be in a sealed box. On the day of the meeting, three numbers will be drawn from the box. The party holding the program whose number corresponds to those drawn from the box will receive the following: The first number drawn, enough gas and oil by the S. & W. Motor Company of Newport to bring them to Newport and take them home; to second number drawn, Bishop's Filling Station of Newport will donate enough gas to make the round trip; and H. T. Payne's Filling Station will give five gallons of gas to the party holding the third number. No blanks, drawings made until someone wins, but you must have a program that corresponds to the number.

Cake Contest

At least 50 per cent of the sweetening agency in cakes entered in the cake contest at this meeting must be honey. A written recipe must accompany the cake. The contest is open to everyone, whether present or not.



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"Exceline Jars" . . . range in size from $\frac{1}{2}$ pound to 4 pounds.



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"Beehive Jars" . . . range in size from $\frac{1}{2}$ pound to 2 pounds.

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Beekeepers in this country are increasing their holdings and new beekeepers are establishing themselves along the Great Northern Railway in these states. Diversified farming and live stock are similarly favored by low cost production.

Write for Free Booklet on beekeeping and farming opportunities, including Low Homeseekers' Round Trip Excursion Rates.

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Prizes: First: One barrel of White Lily Flour donated by Robinson Mills, Perrysville, Indiana. Second: One half barrel of Nickle Plate Flour donated by the Cayuga Milling Co., Cayuga, Ind. Third: One pair of Art Candles of beeswax by A. I. Root Company in Indianapolis. Fourth: One pair of silk hose donated by Foos' Department Store, Newport. Fifth: One box of face powder donated by Winter's Drug Store, Newport.

Judges: Malitta F. Jensen of American Honey Institute, Miss Aneta Beadle, Purdue University; Mrs. Irene Duax, Secretary Illinois Honey Foundation.

— o —

Central Illinois Meeting

The annual field meet and basket dinner of Central Illinois beekeepers with the Piatt and Macon County Associations as hosts will be held this year on Sunday, July 12 at Fairview Park in Decatur.

We hope to make this a rallying place for all central Illinois beekeepers. Bring your basket lunch and join in the festivities including contests, music and speaking.

S. O. Stevenson,
Secretary.

— o —

Ohio Beekeepers' Summer Meeting

The program of the Ohio Beekeepers' Summer Meeting, August 13, 14 and 15 at Delphos, Ohio, is shaping up rapidly and includes many intriguing features. Special invitations have been extended to the Michigan and Indiana beekeepers to participate in this field meeting.

A tour on August 13 includes a honey filtering plant and also commercial apiaries where comparisons will be made on the productivity of 2 and 3-pound package bee colonies and over-wintered colonies with the operators outlining their methods of management.

Plans are progressing rapidly for the educational program on August 14. Invitations to appear on the program have already been extended to out-of-state men as well as to beekeepers within the state. The banquet scheduled in the evening will be one of the long remembered features of the program.

A tour on the morning of August 15 will be conducted to a number of honey houses in the Delphos vicinity. This will afford an opportunity to see commercial extracting plants in operation.

The Ohio State Beekeepers' Association and the Tri-County Beekeepers' Association are anticipating that this will be one of Ohio's outstanding summer meetings.

— o —

Kansas State Field Meet

The annual field convention of the Kansas State Beekeepers' Association will be held at Washburn Park,

When Writing Advertisers, Please Tell Them You Read It in A-B-J

Tenth Street, Topeka, Kansas, on Sunday, July 26.

It is an all day affair with basket dinner. Program follows:

Forenoon Session

- 10:00—Registration of Attendance. Payment Association Dues. Magazine Subscription.
- 10:30—Greetings to Beekeepers, President O. A. Keene. Business Session: 1. Secretary's Report. 2. Constitution. Election of Officers.
- 11:30—Address: "The Why and How of Better State Apiary Inspection," by Dr. R. L. Parker. State Apiarist, Professor Apiculture, Kansas State College, Manhattan.
- 12:00—Basket Dinner.

Afternoon Session

- 1:00—Round Table by Beekeepers: Name. Address. Number of Colonies. One fact, observation, or hobby.
- 1:30—Address: "Co-operation," by H. W. Stewart, Secretary.
- 2:00—Apiary Business Record Book: "Opinions," by Beekeepers. HONEY: Are YOU an Advertiser? Confessions.

Twelve free prize drawings will be made during the day.

H. W. Stewart,
Secretary.

— o —

Mexican Side Trip from San Antonio

Word comes from E. G. LeSturgeon that details are being worked out for that side trip into Old Mexico during the National meetings in San Antonio in November. Details as planned by Mr. Ratcliff of the travel bureau would be as follows:

Cost of the trip per person \$40.00.

The plans for the trip would be to leave San Antonio on the night of the 25th, arrive in Brownsville on the morning of the 26th, and spend the day looking over points of interest in the Rio Grande Valley. We would then spend the night in McAllen on the 26th after making a thorough tour of the entire Valley. We would entrain at Reynosa, just across from McAllen, at 8:30 a.m. on the 27th for Monterrey, arriving in Monterrey about 3 p.m. the same day. It would be our plan then to spend the night of the 27th and all of the 28th in Monterrey and depart on the morning of the 29th for Brownsville. The train arrives in Brownsville from Monterrey in sufficient time to catch the Missouri Pacific that night for San Antonio, returning to San Antonio on the morning of the 30th about 7 a.m.

This trip would be an all expense trip, which would include the railroad fare, all meals, hotel expenses, a trip through the entire Valley and at least two side trips in Monterrey together with a trip to a fashionable night club in Monterrey.

Reservations for the trip should be made through Mr. E. G. LeSturgeon, Box 838, San Antonio. Mr. Pellett of the American Bee Journal staff in company with Wallace Park of Iowa took the trip during the past winter and consider it one of the most worth while they have made.

— o —

Uvalde Celebrates

Beekeeping in Texas is on the up and up. The presence of the Editors of the three great bee journals of the United States in the state most of the winter seems to have borne fruit. May 7 and 8 Uvalde celebrated a Honey Festival a most pleasing and appropriate celebration for the Texas Centennial year. A parade some two miles long opened the Festival the morning of the 7th. A large number of floats carried the Queen Bee of the Honey Festival, Miss Wilma Russell elected as Uvalde's most beautiful daughter; her Court represented by the Duchesses of the Honey Plants of Southwest Texas, each float being decorated by the colors of the plant represented. Following were floats representing historical and ranch scenes; a large number of live stock fraternity on horseback. The business industry of the town and vicinity displayed their wares with appropriate references to the honey industry; the American Legion and other civic organizations and the most striking of all a float representing a group of guajillo, catsclaw, and retama bushes from which rose a honey can bearing the Uvalde honey label from the top of which two future queens of the Honey Festival threw flowers to the audience.

The windows of all the business houses and public buildings were decorated with displays of the famous water white guajillo honey. It would be hard to estimate the combined weight of these beautiful displays. Observatory hives made the displays more attractive. Guajillo, catsclaw, and retama were used for decorations and on displays.

Assisting the honey producers were the wool and mohair producers. Each industry vied with the other in paying compliments. The display of wool and mohair was excellent.

The guajillo honeyflow this year was the best in a long time and many of the beekeepers were unable to attend owing to the fact that they were working day and night to harvest their crop of this most beautiful honey. Among those having displays were: O. Saunders, W. D. Bunting, W. M. Huegele, J. W. Roberts, E. G. Schudde, J. Patterson, R. P. Rowland, A. P. Molloy, J. D. Sutherland, and I. F. Aten. The beekeepers attending were so well pleased with the Festival and of the opportunities which it offers that they met with Walter Reed, the veteran supply deal-

er of Uvalde and effected a temporary organization toward the making of the Honey Festival an annual occurrence and of asking the Texas Beekeepers' Association to hold a spring meeting as a part of the Honey Festival. They also voiced their appreciation of the efforts of R. G. Jordan, City Editor, Leader-News, Uvalde's newspaper, who is largely responsible for the idea and completion of this celebration.

H. B. Parks, Secretary-Treasurer, Texas Beekeepers' Association, Route 1, Box 368, San Antonio, Texas.

— o —

Western and Eastern District (Wisconsin)

The tentative dates for two summer meetings of the Wisconsin State Association of the Western and Eastern District groups are as follows: Friday, July 24th, at the apiary of Arthur J. Schultz, Ripon. Sunday, July 26th, at the apiary of S. P. Elliott, Menomonie.

H. J. Rahmlow,
Secretary.

— o —

New Wisconsin Ordinance

Following a public hearing on April 15, the Wisconsin Department of Agriculture and Markets on May 5 issued an order governing the control of American foulbrood which provides that whenever an inspector shall determine that any colony has the disease, the colony, together with all equipment pertaining to it, shall be placed in quarantine and a notice to that effect be attached thereto.

The quarantine shall remain in effect until the inspector shall sterilize or destroy the material, or otherwise determine that the danger of the spread of the disease is passed. In counties where an area clean-up is in progress and has been in progress for a year or more, and within two miles of the borders of such counties, all infected colonies shall be killed.

In counties where an area clean-up campaign is not in progress, the inspector may direct measures that seem adequate, except that in those portions of the counties situated within two miles of an area clean-up county, and as a condition to the issuance of a permit to sell or move bees or material, the same procedure as above shall be followed. These orders shall remain in effect until amended or revoked by the department.—Wisconsin Trade News Bureau.

— o —

Hansen President Kenosha (Wis.) Association

Richard Hansen was re-elected President of the Kenosha Co. Beekeepers' Association at the annual meeting in Kenosha, Wisconsin, May 11; James Birchard, Vice-President; Oscar Nelson, Secretary-Treasurer. (Please turn to page 359)

Bassett's Italian Queens and Package Bees

Prices June 1st to Nov. 1st:

Untested \$.50 ea.
Tested 1.00 ea.

IXL APIARIES

C. Bassett, Prop. Sutter, California
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For
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50
Years

BEEKEEPERS in many lands have been pleased with this most important tool in Beekeeping. Your Bingham Smoker is offered for sale by numerous dealers.

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Manufacturers of a complete line of Honey Extractors, one for every requirement. Send for printed matter.

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GRAND RAPIDS, MICH.

BLUE RIBBON QUEENS

Extra high quality Italians. Remember, there is no substitute for good queens. With us, queen rearing is a fine art and a life work. One queen, 75c. Two or more, 50c each. Descriptive catalog FREE.
Thos. C. Burseson Co., Box 450, Colusa, Calif.

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Shows the way to success... gives the latest news and views of the rabbit world—an illustrated monthly magazine of general and educational features. Yearly \$1.00. Three years, \$2.00. Sample 15c.

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Dept. S. Warrenton, Mo.

ATTENTION PLEASE!

It is time to requeen and you should do it with Stevenson's Golden Queens for we are Queens of Quality. We produce abundantly, those large, gentle, Honey-Producing bees. You'll appreciate them we're sure. Write for descriptive circular. Marketing Agreement Quotations.
STEVENSON'S Apiaries, Westwego, La.

Choice Bright Italian Queens

that are a pleasure to work with and be proud to own. The stock has been bred and selected in the North the past 32 years for good winterers, hustlers, gentleness, and fine color. 75c each; dozen, \$8.00; breeders, \$6.00.

Emil W. Gutekunst :: Colden, N. Y.

Honey Getting

(Continued from page 349)

accumulate during the season, are put on as second stories for a short time, but are set off as soon as possible for increase, and are given queens by the same method of introduction. This is a safe method at this time because most of the field bees have returned to the parent hive, and the introduction is made to the remaining young bees.

It is generally agreed that good introduction of queens is important. Queens that have been balled or otherwise mistreated during introduction are apt to be superseded at times when queens are needed in the hives. If a shortage of queens occurs at any time, queens should be purchased and introduced when conditions are right. No colony should be left without a laying queen when one is needed.

There are, of course, regions having both an early and a late honeyflow where requeening after the early honeyflow is desirable, and an operator managing perhaps a thousand colonies may requeen as many as a hundred colonies each day for ten successive days. To get the best returns in honey, especially where a dearth immediately precedes the late honeyflow, these operators use cells for requeening. They want a cessation of brood rearing after enough bees for the early flow have been reared, and the use of queen cells in requeening provides that no brood is reared during a part of this period of dearth and that a young queen shall be on hand to lay all the eggs that will produce bees useful for a late honeyflow.

Using mated queens under such conditions results in loss both through the rearing of useless workers and through supersedure later, whereas the use of queen cells heads each colony with a young queen to carry it through the late summer and enable it to breed up to good winter conditions. In using such wholesale methods of requeening, there are always some misses, and the colonies which have failed in having queens mated may simply be united with queenright colonies for the late honeyflow. As a rule, it does not pay to bother with a second attempt at queen rearing under these conditions.

Much requeening is done under clear brood nest systems as a regular part of swarm control and in securing uniformity of colonies. Most queens should be replaced after one year of heavy laying in a large brood chamber. All queens two years old or more should be replaced if their colonies show any signs of swarming although probably but few queens of this age remain. In clear brood nest systems, requeening is also done

whenever any colony varies from the standard condition and desired uniformity because of the queen.

By August, probably three-fourths of the colonies have been requeened, which is more requeening than is usual either under free queen systems and let alone beekeeping or when some requeening is done by replacing a certain proportion of all queens, both good and poor, at some chosen season.

Clear brood nest systems tend to close control of the quality of queens. The beekeeper should give attention to breeding good queens, and should provide for immediate replacement of poor queens or of queens whose bees have some undesirable quality, instead of deferring this important business until fall. Too often with most operators, records are not kept and when colonies are managed as individual units, unless the colony is requeened at the time the decision is made that its queen should be replaced, the old queen is frequently carried over to the next season with a consequent loss in honey production and, therefore, in the returns.

Studies of the cost of producing honey, as well as observations made by competent beekeepers over many years, point to the fact that good queens in every hive are the basis of uniformity of colonies, which is, again, the foundation of the greatest success in beekeeping.

Use of Nuclei for Increase or for Rearing Queens for Requeening.

Although it may be possible to buy good queens and to have them on hand when needed, few beekeepers do so either because they do not buy enough good queens or because, a large percentage of those they buy and introduce are superseded at such a time the crop of surplus honey is lessened.

Unless a supply of mated queens is on hand at all times, all colonies cannot be kept uniformly in honey producing condition. The most satisfactory method is to keep a stock of queens in nuclei throughout the season.*

This use of nuclei is effective with any clear brood nest system of management, and utilizes all combs of brood taken from colonies that have swarmed or want to swarm and also of brood which has been removed to keep a brood nest clear.

Nuclei for increase in colonies and queen-rearing are made early in the summer, about the time of willow bloom or as soon as the necessary work can be done. Nectar and pollen must be coming in and drones flying.

Queen cells may be reared and

(Please turn to page 358)

*Sechrist, E. L. Securing choice queens for home use. A.B.J. 72:190-191. May, 1932.

The Editors' Answers

Questions About Enzymes

Answered by Dr. H. Schuette, Associate Professor of Chemistry, University of Wisconsin.

(1) What is an enzyme?

Answer.—The word **enzyme** comes from the Greek meaning "in yeast." Enzymes are complex organic substances formed in plants and animals which have the remarkable faculty of bringing about chemical reactions in the body without themselves being thereby affected.

(2) Of what value is the diastase in the diet?

Answer.—Diastase, also known as amylase, is a starch-digesting enzyme which is found in the saliva and in the pancreatic juice. It has the power of changing starch to malt sugar (maltose). A digestive ferment of the intestinal juice changes the maltose to dextrose, also known as d-glucose, grape sugar, starch sugar or diabetic sugar. The value of diastase in the diet, therefore, lies in the fact that it is the first of a number of agents which break down starchy foods to a form of sugar which can be assimilated by the body. Because of the ample stores of diastase in the human body, it would hardly seem necessary to eat honey for its diastase. Honey has other, and more important, nutritional virtues.

(3) Is it added to the honey by the bees?

Answer.—Yes. The bees secrete this enzyme, and apparently others, in their bodies and mix it with the nectar which then by the chemical changes resulting from the action of various enzymes upon it and its concentration, by evaporation of water to a syrupy consistency, becomes honey.

(4) After inversion is completed, does the diastase have any value?

Answer.—Yes, in the sense that its activity has not been arrested provided it is given new material to work upon. Chemists have demonstrated this in the laboratory by mixing unheated honey with a solution of starch and actually measuring its diastatic activity.

(5) Does honey eaten leave an acid ash?

Answer.—The quantity of mineral matter that honey contains is so small as to be almost negligible from the standpoint of acid-base considerations. There is need for more information not only upon the nature of the mineral matter present in honey, but also the quantity of each chemical element there found. Honey is known to contain the acid-forming elements sulphur, phosphorus, chlorine and silica and the base-forming elements sodium, potassium, lime and magnesium. Further research will probably show that honey belongs in the alkaline-ash group of foods.

Time of Swarming

During what month do bees generally swarm?

Answer.—Bees usually swarm during May, June and July depending on the honey-flow. As soon as the heavy honeyflow starts,

the colony will swarm if they have not been given plenty of room to store their honey and plenty of ventilation to keep comfortable. There are many causes of swarming and the beekeeper must study it closely if he is to control it.

Clipping Queens' Wings for Swarming

Will a queen with clipped wings prevent or help bees from swarming?

Answer.—Clipping of the wings, of course, will prevent the queen from going with the swarm, and is the reason for the clipping. If the colony is determined to swarm, however, it will rear young queens and the young queen will go with the swarm and the old queen stay in the hive. There is danger of the clipped queen being lost in the grass in front of the hive as she will attempt to go with the swarm.

Drawing Combs for Increase

I want to increase my colony to about ten as soon as possible. Will it be a good plan to use full depth hives in place of shallow supers for the Dadant hive, then store these surplus combs over winter and the next spring buy packages to put on them? This will give honey and drawn combs from the year before to help them get started.

Answer.—Your plan is good. If the bees draw out the second hive body and fill it with honey, you will have the combs to start. A package of bees will do far better on drawn comb with honey than on comb foundation. The amount of honey that you will make this year will depend on the honey crop in your location. If the crop begins early and lasts a long time, they will do much better than if the honey season is short.

Losing Queens in Introduction

This season I had a high loss in introducing queens. I have been using the nucleus system for a number of years to secure safe introduction. I have had few losses in introducing the nuclei to the colony and usually a small percentage of failure in introducing the queen to the nucleus.

In four-comb nuclei, with brood and bees, queens were introduced July 13th and during a flow, six out of ten introduced were failures. The remaining ones built queen cells throughout the season and finally superseded in September. Can you suggest a cause for the failure?

Answer.—It is hard to explain a case like this. We have had similar experience. Requeening any time after the early spring flows until the beginning of the fall broodless period, often results in unexplainable refusal. The idea that queens may be successfully introduced to any colony at any time when honey is coming in, is a mistake. We have found the best time for acceptance

is during early fruit bloom and in the late fall period. Queens put in at either of these times are nearly always introduced successfully.

Queens introduced to nuclei are usually well accepted. We make two or three comb nuclei and introduce queens to them. When the queens are accepted and found to be good, they are introduced directly as full nuclei in the center of honey producing colonies to be requeened. It seems to work well. Our first experience with the method was planned after the system worked out by Newman I. Lyle of Iowa.

Removing Drone Comb in the Spring

I see in "Answers" you recommend removing drone combs in the spring and replacing with worker comb. How do you do it? Do you replace with new frames and foundation? What do you do with the old combs?

Answer.—The combs to be removed are taken out of the brood nest and replaced with full sheets of foundation at the side where the bees are working, but not in the middle of the brood nest. Combs removed are placed in hive bodies above excluders, a full hive body of these combs placed above any colony at all until the brood has all emerged. Then the combs are removed and rendered.

Caucasians and Carniolans in the Same Apiary

Can Caucasians and Carniolans be put in the same apiary with Italians? Is there danger of the queens getting mated with Italian drones and thus be crossed?

Answer.—You can buy packages of bees headed with queens of either one of these races from breeders who advertise and they may be placed in the same yard with Italians. The queens with the packages will be mated and there will be no danger of their mating after you receive them. If colonies should supersede or replace their old queen, of course, the new queens may mate with any drone available and thus you are likely to secure a cross. As long as the original queens remain with the bees, this will not happen.

Alcohol Drum for Storage

Do you suppose I could use a denatured alcohol drum in which to store honey? I intend to cut out one end and paint the inside. What shall I paint it with? Will aluminum paint be all right? I can put a honey gate on it and fill my containers from it after the honey has cleared. These cost about \$1.00 each.

Answer.—We see no reason why the denatured alcohol drum for honey storage will not do if cleaned thoroughly. The aluminum paint will be fine. You might also wax the inside with beeswax and paraffin. The aluminum paint will probably be less apt to shell off.

MOTT'S NORTHERN BRED ITALIANS

Eliminates that swarm nuisance. Free list.

Guaranteed purely mated.

June, July: \$1.00; 2 or more, 75c ea.;
50, \$35.00; 100, \$65.00. Fair to good
breeders, \$2.00, \$3.00, \$5.00. Virgins,
40c. Satisfaction guaranteed.

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The Honey Producing Qualities

of Forehand's Bees is not a matter of chance or guess, but the result to be expected from intelligent and accurate application of knowledge gained in continuous apiary experience and the 40 years' experience in rearing queens and bees commercially.

Untested queens, 50c each. 2-lb. pkg. of bees with queen, \$1.95. 3-lb. pkg. of bees with queen, \$2.55.

Get your bees and queens when you need them by placing your order early.

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If you are interested in Pigeons, you need the **AMERICAN PIGEON JOURNAL**, an informational, instructive 36-page monthly magazine. Sample 15c; 12 months \$1; three years \$2.

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FOR 1936

If You Need One or One Thousand
Let Me Quote You.

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Shasta Co., Cottonwood, California.

A GOOD RULE TO GO BY

Buy your three-banded Italian Queens from

ALABAMA APIARIES
MT. PLEASANT, ALABAMA

Queens, 50c each

Packages at standard prices.

PALMETTO QUALITY QUEENS

50c each for balance of season. A 15% discount to those buying queens for resale. Would like to hear from those buying queens for resale. Rear three-band Italians only. No disease.

C. G. ELLISON :: BELTON, S. C.

Honey Getting

(Continued from page 356)

one-frame nuclei made six or eight in a super. A wire cloth bottom being tacked on the super and wood division boards placed between the nuclei. A super should be placed above a strong colony until young queens emerge, to keep the cells from being chilled and to give the operator a chance to see whether each queen is good. Shallow frames and supers are good for this work.

For each good queen with her one comb, a nucleus is made in a full width hive body with another comb wrapped in newspaper as a division board. If swarming is prevalent, these nuclei are helped to build up with combs of brood taken from swarming colonies. If no brood is taken out to control swarming or keep the brood nest clear or to keep colonies uniform and if no brood may be spared for full colonies, the nuclei are left alone to build up the best they can and supply queens when they are needed.

Any nuclei which have not been built up to the standard strength at the end of the season are united with some colonies whose queens need replacing.

What is known as the Rauchfuss system of rearing and mating queens is also a good method of providing queens when needed. This was previously described in the American Bee Journal volume 71, page 324, July 1931.**

**Further discussion of the Rauchfuss system is found in A.B.J. 1931 71:460; 71:512-513; 71:550-552; 1932 72:17.

—ABJ—

Sting of a Bee Solves Case of Stolen Sweets

In exasperation when hives have been molested again and again and quantities of honey, frames and all removed, we have wished the guilty parties would receive a real good stinging for their efforts. Perhaps we might learn in that way the one or ones who were pilfering and leaving the hives uncovered causing the bees to die from exposure and starvation. This stealing seems usually to occur in the winter time when one does not make trips to the outapiaries so frequently and thus the losses occur. Moreover, the bees do not protect themselves by stinging so well in the cold weather.

However, ten little boys in Council Bluffs, Iowa, were not so fortunate. They made a raid on a bee-hive, and had a picnic with twenty pounds of stolen honey. One of the lads had the "misfortune" to get stung over the eye. A probation officer was put on the trail following re-

port of the theft. He spotted the boy with the swollen eye. It gave him the clew which brought all ten culprits before the judge in juvenile court. The judge told the lads they would have to reimburse the owner of the hive. They fled out of court, crest-fallen, facing the problem of raising thirty-nine cents each.

Benj. Nielsen,
Nebraska.

—ABJ—

The Superior Qualities Of Yellow Italians

By M. W. Harvey,
California.

In spite of all the knocking I have heard against the yellow or golden Italian bees, they have given me the best and largest average in comb honey production.

In 1914 when located in Nevada, after treating one hundred colonies for European foulbrood, building up 125 three-frame nuclei, and getting an average of six 24-section cases, I shipped a car of 1257 cases off the second flow to the A. I. Root Co. I received a letter from them stating that it was the best car of comb honey they bought that season. In addition to these 1257 cases shipped out, I supplied local stores with over one hundred cases of ten-ounce honey.

Through years of experience I have found the golden Italians the only strain to clean up European foulbrood and to resist the disease. I came to this conclusion after trying some fifteen or more of the dark strains, including Carniolan and Caucasian, purchased from the best breeders in the United States. Although they responded to treatment and produced a crop, some of the dark strains went bad in the fall, and all went bad by the next spring or later—most of them being as bad as the blacks.

No wonder my bee friends laughed at me and said European foulbrood could not be cured, for they, too, were outfitted with the dark strains. On changing over to golden Italians, I had much happier experiences.

Do not misunderstand me—I do not claim that all yellow strains are invulnerable. In fact I have seen some that I would not have as a gift. Also, I have found that the yellow strains are more eager to rob than the darker strains.

However, in my thirty-eight years of observing and working with bees, I'll take my chances today with the golden Italians.

And the worst robbers are also the best workers.

Meetings and Events

(Continued from page 355)

President Hansen demonstrated queen rearing and described experiences in Texas when working with leading beekeepers of that state.

Wisconsin Trade News Bureau.

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Virginia's Big Picnic

The annual picnic meeting of the Virginia State Beekeepers Association is being planned for Tuesday, July 21st at Miller Park in Lynchburg. As President Asher asserts, beekeepers will be able to rejoice or lament the season's success or failure on this date. Little surplus honey has been stored through central Virginia to the middle of June. Popular yielded little and the drought cut short all clovers. Prospects for sourwood however are the best in many years. We hope by the time this is read beekeepers will have to pile on the second round of supers.

Program for summer meeting will not be elaborate as this is the beekeepers' own picnic and they prefer a quiet jovial day. Secretary Caldwell hopes to have some distinguished visitors with us among whom will most probably be E. S. Prevost, Extension Bee Specialist, Anderson, S. C., and Jes Dalton, Kenner, La.

Six months ago we sent out bids for the 1937 joint convention of all national organizations. We have since learned the Maryland Association and the U. S. Beekeeping Laboratory desires our cooperation in pulling this convention to Washington, D. C. It now seems to be the desire of our association to work with Mr. Hambleton and Mr. Cory for this big event.

A. D. Hiett.

— 0 —

Missouri State Fair

This year the Missouri State Fair at Sedalia will be held August 22-29. The premium book, just received, carries \$279 for bees. On page 119 will be found the department of apiary products with a description of the entries and rules. The Superintendent is Geo. D. Jones of Columbia. Copies of the premium list may be obtained from him. There are prizes offered for displays of apiary products, honey and beeswax, bees and honey cookery.

— 0 —

Officers of the Peoria County Association

President C. G. Striedor, Brimfield; Vice-President B. F. Bell, Kingston Mines; Treasurer S. B. Moon, Peoria; Secretary Mrs. Mary Johnson, Peoria.

C. G. Striedor,
President.

(Please turn to page 361)

JENSEN'S Queens for Requeening

No More Packages This Season.

Losses caused by poor queens are probably greater than from any other one thing. Honey lost because colonies do not build up. Colonies lost in winter because of going into winter with insufficient young bees. Old queens often die in winter causing bees to become unduly restless resulting in the death of the colonies.

You cannot afford to keep poor queens when good ones cost so little.

We continue to offer FREE, two Select Tested Queens to anyone sending us \$1.00 for membership in the American Honey Institute.

SELECT UNTESTED QUEENS

50c each

Balance of the season.

JENSEN'S APIARIES

MACON, MISSISSIPPI

Home of "Magnolia State" Strain Pure Three-Banded Italians.

WRITE US FOR OUR
PROPOSITION ON
WORKING YOUR 1936
WAX AND CAPPINGS.

Wanted Bees Wax For Our Busy Bee Brand Foundation

Send us your rush order for foundation. We have a nice stock on hand ready for shipment.

We wish to thank our customers for their wax work, and to assure you we will send you better foundation continually as we are continually improving our machinery and process.

To those interested in foundation making machinery, we solicit your inquiry. We have the best equipped machine shop and experienced men in this business. Complete plant set up, or individual machines to order. Reference Dunn and Bradstreet.

Highland Apiaries and Factory West Elkton, Ohio

FOR SALE
PURE ITALIAN QUEENS. Nothing but the best. Bright yellow and three-band. Queens 50 cents each—subject to dealer's discount. You send for them, they go.
Route 2 GRAYDON BROS.
Greenville, Alabama

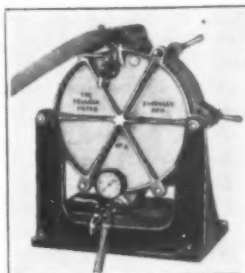
Package Bees and Queens

By Pound, Ton or Car.

Service - Satisfaction

Trade Agreement Prices. Write for particulars.

VICTOR APIARIES :: KYLE, TEXAS



HONEY FILTERING!

Special equipment for filtering honey. Amazing results in brilliantly clear, stable honey, with high sales appeal. Simple process. Profitable investment. Filter, mixing tank, flash heater, complete outfit—investigate! Write us—no obligation.

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Mention the American Bee Journal When Writing Advertisers

Three-Band Italian Bees & Queens

Write for prices.

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CAUCASIANS

Extra gentle, prolific, long tongue, little swarming, dependable workers, 10% to 40% ahead of Italians. Wintered out of doors and bred in a climate like their native land thus insuring their good qualities. July is a good time to do general requeening.

CARNIOLANS

Prolific at all times, very gentle, best of winterers, build beautifully white combs, most excellent workers. My Carniolan queens headed colonies producing 435 pounds extracted over whole yard. Twenty nine years with them. My own and Jan. strig imported strain.

Prices: Both races: 1 to 5, each 60c. Six or more, 50c each. Tested \$1.00. Breeding queens \$5.00.

ALBERT G. HANN

Glen Gardner

New Jersey

Steam Uncapping Plane



Fig. 101

New tool for uncapping. Efficient and easy to operate. Guaranteed to work. 2,000 capped combs may be uncapped in one day.

Try it once and you will want no more steam knives. Attaches to ordinary uncapping knife boiler. Price \$6.50, delivery charges extra.

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Distributors—The Diamond Match Co., Chico, Calif. Los Angeles office, 1797 Pasadena Ave. Arizona, Nevada, California and Oregon F. W. Jones & Son, Bedford, Quebec. Maritime Provinces, Quebec and Ontario. Andy & Davie National Cartage, Winnipeg, Manitoba. S. P. Hodgson & Sons, New Westminster, British Columbia. Carl F. Buck Co., Wala Wala, Washington. A. E. Wright & Sons, Nampa, Idaho. Overby Apiaries, Leonville, La. Stover Apiaries, Mayhew, Miss. M. C. Berry, Montgomery, Ala.

MOORE'S STRAIN Leather Colored Italian Queens

NORTHERN BRED

1 to 9	Each 70c
10 to 24	65c
25 to 49	55c
50 or more	50c

World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed.

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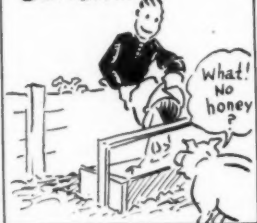
RENEW YOUR SUBSCRIPTION
NOW

Keep the Ball Rolling

"SOME WAY I'VE NEVER THOUGHT JUST A DOLLAR WOULD DO THE HONEY INSTITUTE MUCH GOOD BUT IF ALL OF US WHO HAVE A FEW BEES—



— WOULD SEND IN THAT MUCH A LOT COULD BE ACCOMPLISHED FOR THE GENERAL GOOD — ANYWAY I FEEL BETTER —



— AND NOW TO PUT MY BEE HOUSE IN ORDER. THERE'LL BE NO LOSSES THIS YEAR DUE TO NOT KEEPING MY EQUIPMENT SHIP SHAPE!"



Third National Honey Cookery Contest

MORE prizes are to be offered this year than ever before for the third National Honey Cookery Contest under the auspices of the American Honey Institute, at San Antonio, Texas. The contest is open to everyone. Entries must reach San Antonio by November 20. Address the entries to American Honey Institute, San Antonio, Texas, Crockett Hotel. No entries will be returned.

An individual blank must accompany each entry and these are to be obtained by writing American Honey Institute, Madison, Wisconsin. Any individual may make more than one entry in each class. In mailing your entry to the cooking contest, be sure that the package is plainly and properly addressed, that it contains your return address and carries an entry blank to assure proper identification. Paste the envelope with the blank, if you wish, on the outside of your package, stamping the envelope with a 3-cent stamp. No prize will be awarded until the recipe has been tested.

There are the following classes:

Class A—Honey Fruit and Nut Bread. All honey as source of sweetening. The bread must contain both fruit and nuts. This class includes only quick breads and not yeast type. Weight about one pound. Wrap in waxed paper or cellophane.

Class B—Honey Fruit Butters. All honey for sweetening. More than one fruit may be used. A half pint jar is enough.

Class C—Honey Fruit and Nut Candies. All honey for sweetening. The candy must contain fruit and nuts. Should not be coated. Wrap individually in waxed paper or cellophane and send at least a half pound.

Judging will be based on the following points: For fruit and nut

breads, on shape, volume, evenness of bake, crust, color, character of texture, and crumb. For fruit butters, on smoothness, consistency, flavor, color and general appearance. For fruit and nut candies, on flavor, eating qualities, color, size, shape, surface and condition.

There are substantial prizes in each class. Special prizes also. A complete description of the classes, rules, judging and prizes, including the special prizes, may be obtained by writing to American Honey Institute, Madison, Wisconsin.

Be sure to get this started early. Associations should interest their best cooks in entering the contest. It is hoped that those who are known to be good honey cooks, whether or not they are beekeepers' wives or associates, may be induced to enter. We need all the publicity of this kind possible. Do your best.

British Bee Book

"Bee Farming in Britain" is the name of a new book just out by Herbert Mace. It contains 111 pages with a number of illustrations and diagrams and is paper bound.

As its name signifies, it has to do with the present beekeeping conditions. According to Mr. Mace, one-half of the commercial beekeepers in Britain use the American type of hive.

The crop is best in the chalk or limestone districts and in the heath-er.

Mr. Mace recommends thirty colonies as being the best number suited for part time beekeeping. The book is very interesting and gives a rather comprehensive list of the larger beekeepers in the British Isles.

The price of the book is 2 shillings net.

Meetings and Events

(Continued from page 359)

Iowa Summer Meeting

The program of the Iowa Beekeepers' summer meeting to be held at Pellett Gardens near Atlantic, July 17, is as follows:

- 10:00 a.m.—Visit to strawberry fields with Sam Edgecomb, Extension Horticulturist Iowa State College.
 10:30 a.m.—Visit to vegetable fields with C. L. Fitch, Vegetable Specialist, Iowa State College.
 11:00 a.m.—Outline of Disease Resistance Experiment, Dr. O. W. Park, Iowa Agricultural Experiment Station.
 12:00 n.—Basket Dinner. Bring your lunch. Lemonade and coffee will be served by association.
 1:30 p.m.—Place of Bees in Fruit Growing, Robt. M. Clark, manager of Apple Grove Orchards, Mitchellville, Iowa.
 2:00 p.m.—Address by James I. Hambleton, Bee Culture Specialist United States Department of Agriculture, Washington, D. C.

Pellett Gardens are located two miles north and one mile east of Atlantic. Take Olive Street road north.

Come and see for yourself how the disease experiment is being conducted.

— 0 —

Beekeepers Cooperate in Honey Demonstration

Mrs. Ila Leonard Wermuth, Household Editor, Michigan Farmer, gave a second honey demonstration before the members of the Boston Grange, Ionia, Michigan, February 29th. Local beekeepers cooperated furnishing honey for service and attendance prizes. The beekeepers deeply appreciate this interest in honey on the part of Mrs. Wermuth and the Michigan Farmer. It comes about as a result of contacts made with American Honey Institute at the Detroit meeting.

Beekeepers in other states should be able to secure similar cooperation from their farm papers. American Honey Institute could make many more such contacts if half the beekeepers would look themselves in the face and do their duty.

R. H. Kelty,
Michigan.

— 0 —

Officers of Fond du Lac Co. (Wis.) Association

Officers of the Fond du Lac County Association were re-elected at the annual meeting in Fond du Lac, Milton Earhardt, Oakfield, president; Arthur J. Schultz, Ripon, vice-president and William Sass, Fond du Lac, secretary-treasurer, and a committee was named by President Earhardt to arrange for the banquet at the an-

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American Bee Journal :: Hamilton, Illinois

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	100 lbs. or more, 14c
	25 lbs., 25c
	50 lbs., 25c
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Mention the American Bee Journal When Writing Advertisers

nual convention of the State Association in Fond du Lac in November. Mr. Sass, chairman, Robert Wolf and Joe Karst.

Wisconsin Trade News Bureau.

— o —

New Inspectors in Manitoba

Nine inspectors were appointed by the Manitoba government to carry out the fight against foulbrood this year as follows: F. Baril, St. Adolphe; J. Bissonnette, St. Jean; W. M. Duncan, Carman; R. D. Nicholson, Oakville; Malcolm MacDougall, Shellmouth; Albert LaCroix, St. Claude; R. J. Sellen, Oakbank; B. A. Telford, McCreary; William Kreutzer, Steinbach.

— o —

Three Illinois Field Meetings

Three field meetings are scheduled for Illinois for early July as follows:

July 10—Friday—Tri-county meeting of Ford, Iroquois and Kankakee counties. This is to be held at the City Park in Buckley, Ill. Park is 1 block north and two blocks east of the Buckley depot. It is an all day meeting from 10 to 4.

July 11—Saturday—Champaign County meeting. All day field meet with basket dinner at noon at apiary of Deputy Inspector Herman Denhart located near St. Joseph. Turn north at first cross roads $\frac{1}{4}$ mile east of new overhead viaduct at Glover, to second road north. Fine well kept apiary in view. You can't miss it. Mr. Denhart has good ideas in practice. A good program is assured. Beekeepers of surrounding counties especially invited.

July 12—Sunday—Macon, Piatt County meeting. An all day field meeting, basket picnic at Fairview Park in Decatur. Big covered amphitheatre good for rain or shine. Smoker contests and other contests. Tug of war between Piatt and Macon County bona-fide beekeepers. Good program.

— o —

Illinois State Field Meet

The first annual Illinois State meet held at Marissa on Sunday, June 21, went over with such a bang that it promises to be a regular annual affair. From point of attendance, getting acquainted, and program, as well as honey cookery display the meeting was a great success.

Sponsored by the active St. Clair Association, the meeting was held around the home of Philip Krebs at "Old" Marissa. Groups of folks, all day long divided their time between watching the bees work, inspecting Mr. Krebs modern bee house, listening to the program, enjoying noon-day luncheon, making new friendships and renewing old ones.

Nearly three hundred registered as present, and there were easily fifty more who did not. They came from the topmost county in the State down to the tip of the toe, and from the

Mississippi to the Wabash shores. Some were present from without the state. Missouri, Kentucky, Wisconsin, Indiana, and probably other states were represented.

The writer was astonished at the sweet clover fields he saw in going from Hamilton to the meeting. But drought was everywhere. White Dutch clover which promised so much earlier was gone through the drought, but sweet clover was at its height, and promised to yield well, thanks to its deep root system. Many heavy losses of bees were reported by the bad winter. Some of it was made up by packages, but there are not the bees in Illinois that there were a year ago, and it is doubtful if the fall count will have yet made up the loss.

Everywhere was praise and enthusiasm for the work of the American Honey Institute. Mrs. Jensen's presence gave some, first hand idea of what the Institute is really doing and how its publicity is obtained. The cookery contest, in charge of Mrs. Duax brought many entries and a nice display.

Awards were made for prize essays as well as for the cookery, and the program though having possibly too many participants, was made enjoyable to the end by a limit of 15 minutes to the speaker. When the smoker contest occurred, with some 15 participating, the fog in three minutes well nigh blotted out the sun and made many of us, between our coughing spells, wonder if, perhaps, the long hoped for clouds and rain were not finally arriving.

But the day stayed cool and pleasant.

Space will not permit dwelling upon the program and its participants. From the attendance undoubtedly this is one of the largest meetings ever to be held in Illinois. No doubt the success will be repeated. Our hosts, Mr. Krebs and the St. Clair folks, are to be congratulated on a very successful outing and day. The writer hopes a little later to go a little further into the meeting in conjunction with other Illinois meetings which he is to attend.

— o —

New Jersey Field Meetings

The New Jersey Association has planned an important field meeting for July 9, to be held at Mr. Albert G. Hann's apiary in Glen Gardner.

This Association is also planning a September tour which will probably be in the northern part of the state. For information in regard to these meetings address either Secretary of State Association, Mr. Elmer G. Carr, Pennington, N. J., or Mr. Arthur R. Bullwinkel, 50 Pitt Street, Bloomfield, N. J., Secretary of Essex County Beekeepers' Society.

John Conner.

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Requeen this summer with **DAVIS BROS.** Italian and Caucasian queens. They're the best by any test. The strains that will gather those extra pounds of honey that make the difference between the best and the rest.

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"We have several hundred colonies headed by your queens and they are in fine shape this spring. I expect to use quite a lot of your queens this year."—R. R. Victor Tippet, Ontario, Canada.

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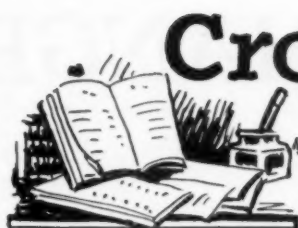
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Crop and Market Report

COMPILED BY M.G. DADANT



For our July issue, we asked reporters to answer the following questions:

1. How is the crop compared to 1935?
2. Future prospects?
3. Are there as many bees to gather crop as in 1935?
4. How is honey demand?

Crop Compared to 1935

In the sections where there has been any of the crop harvested, it is questionable outside of Florida, Louisiana and possibly Texas whether the crop is as heavy as it was in 1935. Positively, the crop is far less in California which is the big honey producer and affects most seriously the larger markets. The orange crop in California was decidedly a failure yielding far less than had been anticipated after the earlier rains. In addition, there will be practically no honey from sage and dozens of beekeepers are migrating into the irrigated sections farther east. The shortage of the crop in California will far more than offset any increases to last year's crop which there may have been in Texas and other southern and south Atlantic states.

Furthermore, the first part of the crop in the white clover honey section should be harvested by this time as the bloom came early. It has been a decided disappointment both on account of the fact that the bees were not in sufficient strength to gather the crop and because there are such great areas where white clover has not been able to yield satisfactorily on account of the extreme drought. All in all, the crop so far we anticipate is less than last year and considerably less on account of the shortage in California.

Future Prospects

As stated above, prospects in California, except in northern California which is normal, are bad for the rest of the year and in most cases necessitate a move into the irrigated alfalfa and sweet clover sections, some California bees going as far east as Utah and one California producer having moved into Nebraska.

In the intermountain territory, the prospects look as favorable as last year and perhaps a little better owing to the heavy earlier flows. This does not apply, however, to Montana which apparently is too dry.

Arizona also reports prospects poor for the balance of the season.

Our readers are probably most interested in the white clover area which more or less was mentioned a number of times in the columns owing to the possibilities arising through large acreages of the little Dutch white clover.

This has so far been a disappointment. While clover was blooming in grand fashion, many bees were still dwindling from the bad winter or had not built up in time for the flow and were building on the flow. In addition, the drought struck the clover which forced it to bloom earlier and much of it has already been killed. However, as one beekeeper mentioned, if only one-fourth of the clover would survive and continue through the summer, there would still be sufficient for a nice crop.

In the plains territory, we believe conditions are much better for a crop this year than last unless we consider the number of bees on hand to produce it. Dry weather in the Dakotas apparently has been at least partially broken and prospects look fairly good from the Black Hills country as far as New England. In Canada, prospects are up to usual at least and perhaps a little better.

How Many Bees to Gather Crop?

It is here that we learn of the disappointment of hundreds of beekeepers. There are not nearly as many bees to gather the crop this year as there was a year ago even after counting in the thousands of additional packages that had been shipped in to make up winter losses and perhaps make for increase. It is surprising when attending little county meetings to see how many beekeepers have lost practically all of their bees and how many dozens of others are recouping their losses by package bees and anticipating the hope that they may get a surplus out of the end of the flow.

It is apparent that the commercial honey producers are going to be in an enviable position this year because the small beekeepers likely will not have the honey crop to throw inadvertently on the market to disturb it.

In recent conversation with a New York official, we understand that hundreds and hundreds of colonies there have died during winter, that many have dwindled during the spring and that commercial beekeepers are hard put to make up their winter losses and particularly to build up in time for the clover and other flows.

While we have been optimistic over the possibilities of this season, the spring has not proved satisfactory for proper building up of colonies for the honeyflow instead of on it. As a consequence, the optimism which prevailed one month and three months ago has been somewhat abated by the development. The southern sections including California perhaps have more bees than a year ago for the crop but in practically all other sections, the number of bees is much less and would range probably 75 per cent of 1935. Some sections like Washington, Idaho and particularly the intermountain states, do claim as many bees as last year. Wherever the crop is late, the beekeepers are going to be to advantage; wherever the crop is early, there is a disadvantage and this applies to a large part of the white clover region.

Of course we may still have time for rains in the white clover region to prolong the white clover flow through July and into August which would change the situation considerably. However, from present indications, we cannot see but that the white clover region is going to be a disappointment over what it looked one month and two months ago.

Demand for Honey

As may be assumed, the demand for honey in a retail way is not particularly heavy. We have had one or two beekeepers report to us, however, that on account of the very poor prospects for fruit, they have been selling honey to consumers who are saving their canned fruit for the winter of 1936. In other words, the consumer is already anticipating the poor fruit crop and preparing for it. Naturally, a shortage of all kind of fruits most certainly should make a better demand for honey.

Although the jobbing honey market seemed a little weaker six weeks ago, there has been an appreciable quickening particularly in central and eastern territories during the past three weeks, perhaps partly owing to the failure of the California crop. We cannot say, however, that the demand is especially stimulated either retail or jobbing. Naturally the big buyers of honey are wanting to buy at their own price in California and southern points or else wait and see what the development is of the intermountain and eastern territories where sweet clover and white clover are the principal source.

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Eugene Gordon, Hershey, Nebraska.

THREE-BANDED Italian bees and queens for 1936. Write for prices. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, North Carolina.

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CAUCASIAN BEES AND QUEENS for June. Write for free booklet which describes our bees and quotes prices.

Bolling Bee Co., Bolling Alabama.

LIGHT 3-BANDED ITALIAN QUEENS. We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We feed tons of sugar annually, and spare no expense in any way so that our queens are fully developed, fine large beauties, that will give you more than ordinary service and satisfaction. We can ship your queens quick from Paducah. We ship only young, laying queens, and guarantee them to be purely mated, and satisfactory to you. You are the judge. Price 50c each, to dealers 42½c each. We need dealers in many localities.

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EXTRA YELLOW Italian Queens that produce bees a little more yellow than the three-banded; more gentle and just as good workers. Untested 50c each; tested \$1.00. Health certificate and satisfaction. Hazel V. Bonkemeyer, Rt. 2, Randleman, N. C.

GOLDEN ITALIAN QUEENS the rest of the season, 50 cents each. Quality and service to be considered when ordering queens. They are second to none. They satisfy. E. A. Simmons Apiary, Powell Owen, Mgr., Greenville, Ala.

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JOYFUL QUEENS—Leather colored Italians. Good honey gatherers and gentle. 50c each.

Joy Apiaries, Walter Friedrich, Belleville, Ill.

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GOLDEN ITALIAN QUEENS—Untested, 50c each.

Sam Hinshaw, Randleman, N. C.

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FOR SALE—Fine grade light amber bulk comb honey.

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HONEY PACKERS—Write us for prices and samples on California and Western honeys. We stock all varieties. **HAMILTON & COMPANY,** 108 West Sixth Street, Los Angeles, California.

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TUPELO HONEY—Will not granulate. Barrels, new 60's, seven and eight cents. Anthony Bros. Honey Co., Apalachicola, Fla.

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NEW CROP WHITE CLOVER HONEY.

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CHOICE WHITE CLOVER HONEY in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

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NEW CROP CLOVER HONEY both comb and extracted. Ready to ship July 15th.

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WANTED—Extracted Honey. Send sample and price delivered to T. W. Bursleson & Son, Waxahachie, Texas.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White and Light Amber Honey. Carlots or less. Clover Blossom Honey Co., 712 Kossuth St., Columbus, Ohio.

HIGHEST CASH PRICE for your beeswax. Write for my high prices and shipping tags before disposing of your wax.

Walter T. Kelley Co., Paducah, Ky.

WANTED—White and light amber extracted honey. Also comb. Prairie View Apiaries, 2005 Fullerton, Detroit, Mich.

FOR SALE

FOR SALE—600 colonies Italian bees in two and three-story ten-frame hives in wonderful shape, free of disease. A bargain for someone at \$6.50 each cash lot, no terms.

H. Peterman, Lathrop, Calif.

FOR SALE—700 colonies bees, in two-story 10-frame hives, Hoffman frames, good condition. Odie Wedgworth, Florence, Ariz.

8 COLONIES BEES—M. D. hives. 28 Supers. Feeders. Excluders. Extractor. Also new supplies cheap. All new last season. Lewis D. Hunt, 4864 N. 26th St., Milwaukee, Wis.

100 COLONIES BEES—Complete extracting equipment. Beautiful Rio Grande Valley, Texas. Irrigated orange-citrus section. Invigorating climate. Perpetual honeyflow. Absolutely no disease here. Best offer takes everything.

Alf. Hansen, Gen. Del., Donna, Texas.

FOR SALE—New and used supplies. Root winter hives, Buckeye, both Jumbo and Standard size 10-frame, no frames or foundation, nailed and painted, almost new, \$5.00 each. Root packed rims for full depth standard hives, \$2.00. Root packed rims for full depth Jumbo supers, new, put together and painted, \$3.50. 10-frame width, beeway section supers with 7 beeway section holders, \$1.00 ea. 1 Root, 2-frame, reversing extractor, 9½x16 pockets, \$15.00. 1 Root capping melter with table, \$10.00.

C. C. Burkhart, Mendota, Ill.

SUPPLIES

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

DIFFERENT, that's all. Written and published for the instruction of beekeepers. 52 pages of breezy entertaining beekeeping comment each month. One year, \$1.00; two years, \$1.50. Sample, 3c stamp.

The Beekeepers Item, San Antonio, Texas.

PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

Honor Roll



EXPLANATIONS ON THE HONOR ROLL—

Honor Roll covers memberships received during the period of January 1, 1935 and December 31, 1935.

*Indicates those members received through the Free Queen Offer made by the Stover Apiaries, Mayhew, Mississippi.

New York (continued)	
Dye, A. Gordon, 18 Conklin Ave., Rochester	15.00
Elwood, Lewis J., Ft. Plain	5.65
Empire State Honey Prod. Assoc., E. T. Cary, Sec.-Treas., Syracuse	117.88
Fairbanks, M. H., Homer	3.60
Ferguson, John S., 150 W. 78th St., New York City	1.00
Freeland, Arthur L., Dunkirk	3.00
Gable, H. B., Romulus	7.20
Gravely, E. W., 148 Chambers St., New York	1.00
Grimble, Howard, Holcomb	10.00
Gutekunst, Emil W., Rt. 1, Colden	5.00
Howard, C. B., Geneva	3.30
Hutchins, E. E., Massena	2.00
Hutchins, L. S., Massena	1.90
Jones, F. J., Sauquoit	10.00
Keet, L. C., 1003 Leroy St., Watertown	15.60
Kenyon, Irving, Rt. 1, Syracuse	3.90
Lamkin, Fred D., King Ferry	5.00
Lane, E. L., Trumansburg	7.20
Lesser, Fred W., Fayetteville	14.40
Lord, Cornell A., Honeoye	1.00
MacMullen, Louise, Rt. 1, Greenwich	2.50
MacMullen-Lyman Apiaries, Rt. 1, Greenwich	9.00
Martin, L., Falconer Mfg. Co., Falconer	10.00
Merrell, Harold A., Wolcott	11.70
Minard, George F., Fillmore	1.00
Moore, Warren, Naples	3.60
Myers, H. M., Ransomville	5.00
Newton, W. J., Chittenango Station	1.00
No. N. Y. Honey Prod. Assoc., H. J. Norton, Secy., Limerick	10.00
Oriopp, Frank G., 244 Fazetto St., Palmyra	1.00
Ostermoor, A. G., Whaley Lake Apiaries, Holmes	2.00
Parker, Mrs. Mable, Nedrow	3.00
Pelling, George, Stanley	3.30
Post, Mrs. Kenneth, Brooktondale	1.00
Radler, Martin C., Stockport Rd., Hudson	.50
Raut, B. J., Lafayette	3.00
Rea, George, Comstock Hall, Ithaca	5.00
Robinson, E. S., Mayville	5.00
Rulison, Earl, Rt. 1, Amsterdam	12.60
Rulison, Howard, Amsterdam	3.30
Rulison, John, Amsterdam	3.30
Scotfield, J. Stuart, Kirkwood	1.00
Smith, D. D., Wyoming	2.00
Sowarby, Leo M., Cato	5.00
Sprout, James H., Lockport	7.20
Stevens, L. Claude, Venice Center	3.00
Stone, Geo. W., 123 56th St., Niagara Falls	1.00
Stratton, S. S., Rt. 1, Newark Valley	5.00
Turner, Edward, Preble	2.00
Van Scoy, Homer, Candor	11.00
Wahl & Sons, Clayton	7.20
Wayne Farm Foods, 20 E. 12th St., New York	1.00
Western N. Y. Honey Prod. Assoc., A. Voorhees, Treas., Batavia	10.50
Wilcox, Ray C., Odessa	5.00
Wood, Walter, Rt. 4, Naples	5.00
Memberships for the following new members were received in 1935 for the year 1936:	
Armstrong, E. B.	1.00
Baldrige, C. J., Kendaia	3.90
Baldrige, Mark, Kendaia	3.90
Chazy Orchards, Inc., Chazy	25.00
French, Roy, Theresa	2.00
Gable, Harry T., Romulus	1.00
Hillman, Niles R., Greenwich	3.00
Hosley, Benjamin, Canton	3.60
Loomis, F. B., Rushville	3.00
Mann, Wilfred	1.00
Root, Julian, Jordan	1.00
Sveverson, Walter, G. B. Lewis Co., Albany	1.00
Stevens, N. L., Venice Center	25.00
Sutcliffe, John H., Eaton	2.00
Waters, Mrs. J. H., Cuyler	1.00
A. I. Root Co., E. T. Cary, Syracuse	25.00
North Carolina	
Jordan, F. R., Rt. 1, Box 60, Wilmington	\$10.00
No. Carolina State Bee. Assoc., F. B. Meacham, Sec.-Treas., Raleigh	20.00
North Dakota	
Bear, Leo, Grand Forks	\$ 1.00
Fisher, E. H., Kellys	4.00

Gunter, Ivan, Manvel	20.00	Van Gorder, C. Clyde, 645 N. E. Laddington Ct., Portland	1.00
Henschel, A. H., Alice	4.00	Warmington, James, Rt. 2, Yamhill	1.00
McDonnell, W. A., 820 4th Ave., Devils Lake	1.00	White, Lewis M., 2312 N. Humboldt, Portland	5.00
Ohio		Williams, S. D., 5205 S. E. 82nd, Portland	10.00
Achord, W. D., Findlay	\$25.00	Wood, R. L., Forest Grove	1.00
Bacon, A., E. Palestine	1.00	Pennsylvania	
Barber, O. E., Sylvania	.50	Anderson, Edwin J., State College	\$ 5.00
Breeneman, Wm., Tiffin	2.50	Beam, P. M., Carlisle	2.00
Calvert, J. T., Medina	5.00	Bechtel, Theo. A., 6245 Ridge Ave., Roxborough Philadelphia	2.00
Catner, D. A., Sylvania	.50	Burkholder, D. L., Leacock	1.00
Cuyahoga Co. Bee. Assoc., A. Stofka, Sec., 5729 Flowerdale Ave., Cleveland	5.00	Byler, Jesse, Rt. 1, McVeytown	1.00
Denlinger, Ardon F., Trotwood	3.00	Carey, Chas. D., York	1.00
Diebel, J. H., 972 Cleveland Ave., Columbus	1.00	Davis, W. E., Rt. 1, Wayne	1.00
Dunham, W. E., Columbus	1.00	Dobson, James G., Rt. 1, Milroy	1.00
Eykamp, Geo. E., Rt. 1, Cuyahoga Falls	1.00	Fairmont Apiaries, D. C. Gilham, Schuylkill	2.00
Firelands Bee. Assoc., E. W. Selfe, Sec., Monroeville	1.00	Fritz, Henry A., Rt. 1, Bath	5.00
Fulton Co. Bee Assoc., C. S. Gilson, Sec., Swanton	5.00	Fuller & Fuller, Rt. 3, Muncy	10.00
Gray, James B., Sylvania	.50	Gilham, D. C., Schuylkill	.60
Grinnler, D. G., Dola	1.00	Good, Leonard E., Mountain Top	1.00
Grimes, W. H., Hilliards	4.12	Hahman, Frederick, Box 3, Altoona	2.00
Hurlbut, C. E., 134 Jefferson St., Amherst	2.00	Haines, W. P., Box 112, Beaver Springs	2.00
Joest, Wm. C., Central Ohio Apiaries, Millersport	10.00	Hershey, W. O., 119 Pine St., Lancaster	3.00
*Jones, James L., Rt. 4, Box 167, Delaware	1.00	Heas, E. H., Rt. 2, Mechanicsburg	3.00
*Judy, Frank R., Box 171, Middlefield Licking Co. Assoc., 35 Magnolia Ave., Newark	1.00	Hostetler, L. K., Rt. 5, Lancaster	5.00
Merriam, Asa, Springfield	2.30	Huey, J. S., Box 248, Brownsville	1.00
Mills, L. A., Rt. 5, Greenville	8.00	Johnson, Lewis, 309 S. 6th, Reading	.31
Millower, Ray, Rt. 3, Bellevue	1.00	Jones, F. T., Rt. 1, York	1.00
Moore, J. F., Tiffin	20.01	Kaiser, Fred, 520 E. 26th St., Erie	1.00
Morris, D. H., Swanton	3.00	Kalwin, Fred, 1836 Rahn St., Philadelphia	1.00
Muth, Fred, Cincinnati	5.00	Keil, A. T., Mars	1.00
Muth, Fred, Cincinnati	5.00	Kohler, C. H., 542 W. King St., York	2.00
*Palmer, N., Rt. 4, New London	2.00	Lancaster Co. Honey Prod. Assoc., D. Burkholder, Sec., Leacock	10.00
*Pfister, Grover, Rt. 3, Wooster	1.00	Lehigh Valley Bee. Assoc. Mrs. W. H. Dennis, Sec., Allentown	15.00
Reese, Chas. A., State Apiary Inspec., Columbus	2.00	Lindt, Joe, Rt. 1, Hilliards	1.00
Renninger, C. G., Rt. 1, Tiffin	1.00	Malick, W. A., 305 N. 3rd, Pottsville	1.00
Root, E. R., Medina	50.00	Manges, Earl E., Buffalo Mills	1.00
Root, H. H., Medina	35.55	Martin, John, Rt. 2, Box 5, New Holland	1.00
Seneca Co. Bee Assoc., Tiffin	5.00	Mayer, A. F., Marsh Run, New Cumberland	1.00
Snyder, J. L., Wapakoneta	7.50	McNaughton, C. F., Rt. 4, Millerstown	1.00
Snyder, Penn G., 338 Mercer Ave., Dayton	9.60	Miller, John J., 2107 E. 35th St., Erie	1.00
*Stewart, Wayne A., 321 N. 9th St., Cambridge	1.00	Noel, Frank, Rt. 1, Carlton	1.00
*Stofka, Andrew, 8801 Flowerdale Ave., Cleveland	1.00	Penn. State Bee. Assoc., A. T. Keil, Sec., Mars	14.00
Summerfield, F. W., Grand Rapids	10.00	Sachs, E. H., Biglerville	1.00
Tollafeld, C. G., Medina	5.00	Seitz, E. E., Glen Rock	2.00
Tri Co. Bee. Assoc., Simon Allen, Sec., Delphos	25.00	Shable, Earl, Rt. 2, Hamburg	1.00
Uta, Bernard, Rt. 7, Dayton	1.00	*Snavey, H. M., Carlisle	1.00
Van Haun, Ora, Amherst	1.00	Stockhouse, L. N., Bristol	1.00
Vernard, J. E., Rt. 3, Wilmington	1.00	Trostle, LeRoy, Rt. 1, Bellefonte	1.00
Vittell, Julius, 401 S. Huntington St., Medina	5.00	Weber, George G., York	1.00
Walter, C. A., Rt. 5, Washington	1.00	York Co., Bee. Assoc., W. H. Boeckel, Treas., York	10.00
Wood Co., Bee. Assoc., Wm. Stott, Sec.-Treas., Hoytville	5.00	Zimmerman, D. L., New Bedford	1.00
Wyant, Ross, Sylvania	.50	Zook, D. F., Gordonville	2.00
Oklahoma		Rhode Island	
*Bell, W. S., 401 W. Ave. E., Heavener	\$2.00	Janson, O. Everett, 120 Ontario, Providence	\$ 1.00
Honey Boy Foods Co., Oklahoma City	1.00	Rhode Island State Bee. Assoc., Ralph Vaughn, Sec., Apponaug	10.00
Taylor Bee Co., Chandler	5.00	Vaughn, Ralph P., Apponaug	1.00
Oregon		South Carolina	
Bennett, Florence, Birkenfeld	\$ 7.00	Armstrong, W. H., Belton	\$.50
Foster, W. W., Nyssa	5.00	Dunavan, Prof. David, Clemson College	1.00
Klinkenberg, L. G., Box 996, Nyssa	1.00	Ellison, C. G., Belton	.50
McKennon, Frank, 2135 Hazel Ave., Salem	1.00	Foster, J. L., Roebuck	5.00
Metzler, Ben, Birkenfeld	2.00	*Griffin, C. W., Henry St., Spartanburg	1.00
Nichols, Geo. W. Jr., Talent	1.00	Prevost, E. S., Clemson College	15.00
Oregon State Bee. Assoc., H. A. Scullen, Corvallis	10.00	Whitten, B. S., Pelzer	1.00
Pennington, W. H., 443 N. E., Mirimar Pl., Portland	1.00	South Dakota	
Sanford, A. J., Redmond	2.50	Blackwell, Mrs. C. H., Rapid City	\$5.00
Scullen, H. H., 225 S. 13th St., Corvallis	2.00	Ginsbach, R. J., Sioux Falls	2.50
		Moberg, Anthony, Brookings	4.50
		Tennessee	
		*Coats, A. S., Tiptonville	\$4.00

This Honor Roll occupies several pages and will be continued in the August number. If your state is not included above, therefore, look for it in March or later issues. If any name is misspelled or if any name is omitted, please write at once to either the American Bee Journal or to American Honey Institute, Madison, Wisconsin.

THIS SPACE CONTRIBUTED BY DADANT & SONS, HAMILTON, ILL.

The Postscript

GOSSIP ABOUT THE OFFICE
IN THE MAKING OF THE MAGAZINE



There has been much controversy as to whether or not roses are honey plants and some eminent men have argued the question. Now comes a letter from Everett George, of Independence, Oregon, with the statement that once in about five or six years they get a honeyflow from wild roses. While the bees visit the roses every year it is only in rare seasons that they yield much nectar, he states. Sometimes as much as seven years will elapse between flows. The last wild rose honey crop was in 1933, when some colonies stored as much as a hundred pounds of rose honey.

—ABJ—

This is one of the most interesting honey plant notes of recent years and especially valuable because he tells something of the peculiarities of rose honey. He describes it as having the aroma of wild rose and being of a very dark red color and of good quality. He further states that the honeyflow comes in June in seasons when May is cold and has an unusually heavy rainfall. Such seasons come at infrequent intervals, but when they do there is a honeyflow from roses.

—ABJ—

In commenting upon the discussion of a dependable locality as mentioned in this department, Mr. George regards the Willamette Valley of Oregon as one of the most stable. In ten years of beekeeping there, he has never had less than a hundred pound average with some seasons as high as 150 pounds. Vetch and blackberry are the principal sources of nectar and they yield every year for him. Perhaps this valley may have possibilities which have been overlooked. Certainly the mild climate of the North Pacific Coast region offers attractions after such a winter as the last one here in the Middle West.

—ABJ—

A Fulton, Illinois, correspondent tells of wintering the Vitex shrubs successfully the past severe season. Vitex is one of the finest shrubs for attracting bees and is a desirable ornamental as well. It is particularly well adapted to the Southwest where it stands the heat and drought better than most plants.

—ABJ—

B. M. Huey, of Birmingham, contends that the black belt of Alabama, so named because of the blackness of the soil, not of the people, is a region of dependable locations for beekeeping.

I have been familiar with that region for many years and agree that it has made a good showing. However, in some neighborhoods where beekeeping was formerly an important industry there has been a decline in honey production along with a similar decline in the production of sweet clover. This rather supports my contention that there is a rise and fall of beekeeping in line with changes in the agricultural practice of any region.

—ABJ—

Among the advantages of that region Mr. Huey mentions freedom from serious drought, mild climate, rich soil, low prices for land, good towns with facilities for higher education and freedom from dust storms and severe weather.

Alabama has its attractions but most of the large beekeepers are specializing in the sale of live bees rather than in honey production.

—ABJ—

Experimental work with bee disease is expensive since there is so much loss of equipment. Only a few colonies are definitely resistant and of course those which do not show this quality must be destroyed. It takes plenty of gasoline to do a good job at burning frames of sealed honey, but when a colony is condemned it goes to the bonfire; bees, honey and wax. The bees are first killed with gas to avoid drifting into healthy colonies.

Here at the apiary, where the Iowa Agricultural Experiment Station, the extension service and the American Bee Journal are carrying on their cooperative experiment, we find a good example of the cost of disease to the beekeeper. Now that so many colonies put to the test last year have developed disease so badly as to leave no question of the outcome, we are under the necessity of doing a lot of burning. We are likewise impressed with the value of the bees which have been able to clear their hives of foulbrood and hope that the day may come when the loss from this cause may be only a memory.

—ABJ—

Henry Dadant says that nearly all bees appear to be immune to disease during a honeyflow. So they do. Disease is quite effectively covered up temporarily under conditions accompanying a flow. That probably accounts for the fact that disease is never serious in some localities. Where there is a flow on during most of the breeding time, one need have little fear of disease. The nurse bees are likely to use fresh nectar for food when available and so disease remains dormant as long as the flow lasts, unless well established previously.

—ABJ—

In my opinion, the principal factor in the superseding of queens which come north with the spring packages, is exposure to too low a temperature at some stage of development. Normally queens are reared in an environment where a high temperature is constantly maintained. In commercial queen rearing, when a large volume of output must be maintained regardless of weather, the larvae are often transferred when the weather is too cool for the delicate youngsters. Later, cells are moved or queens are caged under similar conditions. A chilled queen cannot be expected to be a long lived one. If the men investigating this problem will check the effect of low temperatures on queen development they will find the answer very soon.

—ABJ—

Hubam clover has not lived up to expectations. When first brought to public attention it was assumed that an annual sweet clover would occupy a very important place in farm rotation. Instead we hear but little about it of late since most farmers seem to prefer the biennial form. My interest is at once aroused when S. W. Clark writes me from the Rio Grande Valley of Texas that one development company is planning to plant about 1,000 acres of Hubam the coming season. It will be interesting to know what kind of bee pasture it makes so far south.

—ABJ—

Pellett Gardens is no longer the quiet retreat for a naturalist which I was so many years in developing. Melvin and his wife, Betty, are hustlers of the modern kind and there is plenty going on around where they are. From early to late folks are working and the first load of produce goes to market before seven in the morning. Bob Herrick, secretary of the State Horticultural Society, has arranged for a visit to the berry patches and vegetable fields for visitors at ten o'clock in the morning of the bee meeting before the bee program opens. Probably a number of visitors will be interested in berries or vegetables as well as bees. If you are a garden enthusiast try to get here early on July 17. It is no show place but a working garden operated for profit.

—ABJ—

Who will gather seed of the button bush or button willow (*Cephalanthus occidentalis*), to sell to the beekeepers? Numerous requests come to me for the seed but I know of no source of supply. It is one of the best of the native shrubs for honey.

FRANK C. PELLETT,
Atlantic, Iowa.

The Oldest Bee Journal in the English Language

The American Bee Journal

ESTABLISHED BY SAMUEL WAGNER IN 1861

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2 1/2-lb. cans, per carton of 100	3.90
5-lb. pails, per reship. case of 12	1.03
5-lb. pails, per carton of 50	3.50
10-lb. pails, per reship. case of 6	.82
10-lb. pails, per carton of 50	5.05
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60-lb. cans, per carton of 16	5.35

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